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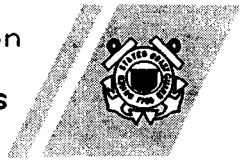

Merchant Marine Examination Questions

New & Revised Engineering Questions

July 1995

This publication contains questions used in examinations for merchant marine licenses and documents.

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U.S. Department of Transportation

United States Coast Guard

Director, National Maritime Center
United States Coast Guard

4200 Wilson Blvd Suite., 510
Arlington VA 22203 1804
Phone: 703 235 1300

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COMMANDANT PUBLICATION P16721.37B

Subj: MERCHANT MARINE ENGINEERING EXAMINATION NEW AND REVISED QUESTIONS

1. PURPOSE. This publication makes the new and revised questions in the merchant marine engineering examination question bank available to the public. The public has the opportunity to review and comment on the questions' clarity and accuracy. This publication should be used in conjunction with the other publications in this series.

2. PROCEDURE.

   a. This publication is effective upon receipt.

3. DISCUSSION.

   a. The questions in this publication reflect additions and changes to the questions in the data bank as of 1 July 1995. The Coast Guard will continue to develop new questions and use them in mechant marine examinations prior to releasing them to the public. The questions as printed herein will serve as a guide to the types of questions that may be encountered on the exam.

   b. Some questions require the use of illustrations or diagrams. COMDT P16721.7C, Merchant Marine Engineering Examination Illustration Book, dated June 1995, contains all the engineering illustrations referred to by engineering questions.

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Norman W. Lemley
Director, National Maritime Center

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INSTRUCTIONS

1. Each numbered question contains a stem and four possible answers. The stem supplies the information and poses the question. There is only one answer that completely satisfies all the conditions set forth in the stem.

2. This publication is divided into chapters as per the Table of Contents. The answers to the questions presented in each chapter are listed at the end of the respective chapter.

3. Question numbers increase from the beginning to the end of each chapter and do not always run consecutively. They are intended for use with the other publications in this series.

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GENERAL SUBJECTS

00023. The lathe tool shown as figure "Q" in the illustration is commonly known as a/an _____. (See illustration GS-0090)

A. cutting-off tool
B. left cut side-facing tool
C. right hand turning tool
D. universal turning tool

00037. The reading on the micrometer scale shown in figure "B" in the illustration is _____. (See illustration GS-0081)

A. 0.560 inch
B. 0.650 inch
C. 0.680 inch
D. 0.750 inch

00068. The part labelled "A" of the illustrated bearing is called the _____. (See illustration MO-0001)

A. thrust ring
B. outer race
C. inner race
D. cage

00073. The valve stem shown in illustration "GS-0140 A" needs to be replaced. Which lathe tools in illustration GS-0090 should be used to turn a piece of stock for this job? (See illustration GS-0090 and GS-0140)

A. R, T, N, L, and O
B. L, S, U, N, and Q
C. M, Q, S, U, and L
D. V, O, T, U, and P

00080. The reading on the micrometer scale shown in figure "A" in the illustration is _____. (See illustration GS-0081)

A. 0.9180 inch
B. 0.9500 inch
C. 0.9680 inch
D. 0.9910 inch

00082. The reading on the vernier caliper scale shown in figure "E" in the illustration is _____. (See illustration GS-0082)

A. 3.360 inches
B. 3.610 inches
C. 3.925 inches
D. 4.360 inches

00104. Which of the refrigerants listed is considered safe and ideal for most marine applications?

A. R-21
B. Ammonia
C. R-12
D. Sulfur dioxide

00113. The reading on the micrometer scale shown in figure "C" in the illustration is _____. (See illustration GS-0081)

A. 0.301 inch
B. 0.310 inch
C. 0.325 inch
D. 0.335 inch

00121. The reading on the vernier caliper scale shown in figure "C" in the illustration is _____. (See illustration GS-0082)

A. 3.355 inches
B. 3.715 inches
C. 4.340 inches
D. 5.340 inches

00123. The reading on the vernier caliper scale shown in figure "F" in the illustration is _____. (See illustration GS-0082)

A. 2.505 inches
B. 2.650 inches
C. 3.125 inches
D. 3.210 inches

00127. The reading indicated on the micrometer scale shown in the illustration is .3350 inches. Which of the figures listed represents this reading? (See illustration GS-0081)

A. Figure A
B. Figure B
C. Figure C
D. Figure D

00171. The reading indicated on the micrometer scale shown in the illustration is .9680 inches. Which of the figures listed represents this reading? (See illustration GS-0081)

A. Figure A
B. Figure B
C. Figure C
D. Figure D

00173. Item #68 as shown in the pump illustration is identified as the _____. (See illustration GS-0143)

A. shaft sleeve
B. wearing ring
C. bearing retainer or spacer
D. journal bearing

00191. The illustration is drawn to a scale of 3/8 inch = 1 inch. What is the full size dimension of "X", if the scale lengths for "E" = 5/8", "F" = 1 3/8", "G" = 2 1/8", and "H" = 5 3/4"? (See illustration GS-0007)

A. 1.625 inches
B. 4.333 inches
C. 6.094 inches
D. 15.333 inches

00206. The reading on the vernier caliper scale shown in figure "D" in the illustration is _____. (See illustration GS-0082)

A. 1.815 inches
B. 1.820 inches
C. 2.115 inches
D. 2.820 inches

00210. The part labeled "B" of the illustrated bearing is called the _____. (See illustration MO-0001)

A. thrust ring
B. outer race
C. inner race
D. cage

00221. In the illustration, line "C" is a _____.
(See illustration GS-0006)

A. dimension line
B. leader line
C. cutting plane line
D. phantom line

00232. The reading on a vernier caliper scale is indicated as 3.380 inches. Which of the figures shown in the illustration represents this reading? (See illustration GS-0082)

A. Figure B
B. Figure D
C. Figure E
D. Figure F

00241. Which of the statements is true concerning the illustrated hydraulic circuit when the directional control valve is centered?
(See illustration GS-0105)

A. The oil pressure will equalize at both ends of the actuator and the pump will discharge through the reducing valve to the sump.
B. The load on the actuator may cause a difference in pressure to exist between the rod and cap end, and oil discharging to the sump across the relief valve with the pump operating.
C. A pressure differential will exist between the two ends of the actuator, with pump discharge lower than normal due to flow across the unloading valve.
D. Oil pressure to both sides of the actuator will be equal as the pump discharge flow is directed across the relief valve.

00242. The reading indicated on the micrometer scale shown in the illustration is .680 inches. Which of the figures listed represents this reading? (See illustration GS-0081)

A. Figure A
B. Figure B
C. Figure C
D. Figure D

00252. The reading on a vernier caliper scale is indicated as 2.505 inches. Which of the figures shown in the illustration represents this reading? (See illustration GS-0082)

A. Figure A
B. Figure B
C. Figure F
D. Figure G

00259. What is the reading of the vernier micrometer caliper scale shown in figure "A" in the illustration? (See illustration GS-0083)

A. 0.2513 inch
B. 0.2517 inch
C. 0.2610 inch
D. 0.2613 inch

00266. The reading indicated on a vernier micrometer caliper scale is .2610 inches. Which of the figure in the illustration represents this reading? (See illustration GS-0083)

A. Figure A
B. Figure D
C. Figure E
D. Figure G

00272. What is the reading of the vernier micrometer caliper scale shown in figure "C" in the illustration? (See illustration GS-0083)

A. 0.4258 inch
B. 0.4528 inch
C. 0.4628 inch
D. 0.4678 inch

00276. The reading on a vernier caliper scale is indicated as 1.500 inches. Which of the figures shown in the illustration represents this reading? (See illustration GS-0082)

A. Figure A
B. Figure D
C. Figure F
D. Figure G

00293. The bearings for the illustrated pump are lubricated by _____. (See illustration GS-0129)

A. a small self-contained forced feed pressurized oil system
B. packed grease
C. oil feed rings rotating through an oil bath
D. a drip feed oiler cup

00348. Item "B" in the pump illustration is the _____. (See illustration GS-0129)

A. packing gland
B. stuffing box
C. shaft sleeve
D. wearing ring

00359. Figure "C" shown in the illustration correctly identifies the position of the journal when the shaft is _____.
(See illustration GS-0121)

A. just at the moment prior to being stopped
B. just beginning to rotate
C. increasing its speed to required operating speed
D. operating at its normal operating speed

00369. You would close the illustrated valve by _____.
(See illustration GS-0140)

A. turning the handwheel clockwise, as viewed from the top
B. first loosening part #4, closing the valve, then retightening part #4
C. turning the handwheel counterclockwise, as viewed from the top
D. first loosening part #8, then turning the handwheel clockwise as viewed from the top

00429. The term, whole depth of the gear, shown in the illustration, is equal to _____. (See illustration GS-0105)

A. A + D
B. B + D
C. C + A
D. C + D

00440. The suction side of the illustrated pump is identified by the letter "_____." (See illustration GS-0129)

A. A
B. B
C. C
D. D

00441. The illustrated valve needs to be repaired due to a leak across the valve disk. To disassemble the valve you should _____?
(See illustration GS-0140)

A. turn the hand wheel clockwise as viewed from the top, using a pipe wrench for assistance
B. first fully loosen part #8, then turn the handwheel clockwise to separate the bonnet from the body
C. first fully loosen part #8, then turn the handwheel counterclockwise to separate the bonnet from the body
D. tighten part #4

00446. Which of the figures illustrated correctly identifies the position of the journal while it is stopped? (See illustration GS-0121)

A. A
B. B
C. C
D. D

00462. The type of shaft coupling used on the pump illustrated is best described as a _____. (See illustration GS-0143)

A. flexible grid coupling
B. solid coupling
C. gear coupling
D. jaw coupling

00470. The reading indicated on a vernier micrometer caliper scale is .8046 inches. Which of the figure in the illustration represents this reading? (See illustration GS-0083)

A. Figure A
B. Figure B
C. Figure F
D. Figure G

00484. What is the reading of the vernier micrometer caliper scale shown in figure "B" in the illustration? (See illustration GS-0083)

A. 0.7996 inch
B. 0.8046 inch
C. 0.8460 inch
D. 0.8550 inch

00493. The reading on a vernier caliper scale is indicated as 2.368 inches. Which of the figures shown in the illustration represents this reading? (See illustration GS-0082)

A. Figure A
B. Figure B
C. Figure D
D. Figure G

00496. What is the reading of the vernier micrometer caliper scale shown in figure "E" in the illustration? (See illustration GS-0083)

A. 0.3001 inch
B. 0.3101 inch
C. 0.3151 inch
D. 0.3251 inch

00516. The reading on a vernier caliper scale is indicated as 1.820 inches. Which of the figures shown in the illustration represents this reading? (See illustration GS-0082)

A. Figure A
B. Figure D
C. Figure F
D. Figure G

00524. The reading indicated on a vernier micrometer caliper scale is .5260 inches. Which of the figure in the illustration represents this reading? (See illustration GS-0083)

A. Figure C
B. Figure D
C. Figure F
D. Figure G

00532. When responding to a "right rudder" command from the amidships position, which parts of the steering gear system illustrated will be subjected to the highest pressure? (See illustration GS-0137)

A. "C" and "F"
B. "E" and "B"
C. "F" and "E"
D. "B" and "C"

00545. The reading indicated on a vernier micrometer caliper scale is .4678 inches. Which of the figure in the illustration represents this reading? (See illustration GS-0083)

A. Figure C
B. Figure D
C. Figure E
D. Figure F

00551. The reading indicated on a vernier micrometer caliper scale is .6383 inches. Which of the figure in the illustration represents this reading? (See illustration GS-0083)

A. Figure B
B. Figure D
C. Figure F
D. Figure G

00553. What is the reading of the vernier micrometer caliper scale shown in figure "D" in the illustration? (See illustration GS-0083)

A. 0.5110 inch
B. 0.5160 inch
C. 0.5260 inch
D. 0.5290 inch

00569. The double bottom in a vessel is a space comprised of _____.

A. plating forming the engine room tank top
B. doubler plating installed over the flat keel plate
C. a watertight boundary formed by the inner bottom
D. compartments between the inner and outer bottoms

00573. While responding to a right full rudder command from the amidships position, which of the cylinders illustrated will be fully pressurized on the face of the pistons? (See illustration GS-0137)

A. "B"
B. "C"
C. "E"
D. "A"

00633. Which of the following actions will occur with the steering system shown in the illustration when responding to a left rudder command from amidships? (See illustration GS-0137)

A. The rudder stock "G" turns counterclockwise.
B. Only hose "J" will be placed under pressure during this maneuver.
C. The starboard ram will extend aft.
D. The six-way valve "N" will be opened.

00669. The shaft coupling for the illustrated pump is rotated by the motor coupling by a/an _____. (See illustration GS-0143)

A. wire serpentine grid
B. interlocking flexible claws
C. internal gear ring
D. special bolts and flexible rubber inserts

00804. A refrigeration unit will tend to short cycle when operating _____.

A. under heavy loads
B. during hot gas defrost
C. under light loads
D. during starting conditions

00820. The reading indicated on a vernier micrometer caliper scale is .3101 inches. Which of the figure in the illustration represents this reading? (See illustration GS-0083)

A. Figure C
B. Figure D
C. Figure E
D. Figure G

00899. If a block and tackle arrangement were rigged as shown in figure "C" in the illustration, the amount of force "P" required to hold the 250 pound load stationary would be _____. (See illustration GS-0110)

A. 83.33 lbs
B. 104.16 lbs
C. 125.00 lbs
D. 250.00 lbs

00969. In the circle illustrated, the circumference is 62.8 feet. What is the area of the shaded portion? (See illustration GS-0134)

A. 27.5 square feet
B. 28.0 square feet
C. 28.5 square feet
D. 29.0 square feet

00989. As shown in the illustration, a section of 4.5 inch standard weight, seamless steel pipe, has a wall thickness of .355". When the pipe is bent into a 90° turn, the length of the outside edge of the curve "A-B" will exceed the length of the inside edge of the curve "C-D" by _____. (See illustration GS-0108)

A. 5.498 inches
B. 6.511 inches
C. 7.069 inches
D. 8.184 inches

01019. Upon a vessel's departure from point "A" at 1206, the counter reading was 616729. At midnight, the counter reading was 672889, at which time the engine speed was increased to 82 RPM, and remained the same speed until its arrival at point "B" at 1140 the following day. If the vessel is equipped with a 20 foot 8 inch diameter propeller, having a pitch of 20 feet, and apparent negative slip of 6.65% was calculated for the passage, what observed distance was covered?

A. 353.2 miles
B. 364.8 miles
C. 398.4 miles
D. 413.9 miles

01046. The reading indicated on the micrometer scale in the illustration is .4815 inches. Which illustration represents this reading? (See illustration GS-0081)

A. Figure A
B. Figure B
C. Figure C
D. Figure D

01124. Flash gas formed in the liquid line of a refrigeration system may cause _____.

A. pressure at expansion valve inlet to increase
B. expansion valve pins and seats to erode
C. expansion valve capacity to increase
D. pressure difference across the expansion valve to increase

01176. In the illustrated circuit, the amplifier is connected in what basic configuration? (See illustration EL-0022)

A. common base
B. reverse bias, negative feedback
C. common emitter
D. common collector

01179. In the illustrated circuit, what is the phase relationship of the amplifier output compared to the input? (See illustration EL-0022)

A. 0° in-phase
B. 180° out of phase
C. phase angle of the input divided by power factor
D. unable to determine without the value of the bias voltage

01971. The nameplate of a reciprocating pump lists the following dimensions: "7 X 6 X 4". The diameter of the liquid cylinder is _____.

A. 4 inches
B. 7 inches
C. 6 X 4 inches
D. 6 inches

02193. Valve "D" indicated in the illustration is referred to as a/an _____.(See illustration GS-0049)

A. relief valve
B. sequence valve
C. unloading valve
D. counter balance valve

02266. The ball float shown in the illustration is 9 inches in diameter and is floats in a liquid with a specific gravity of 0.9. If the effective length (EL) is 18 inches and "L" is 3 inches, how many pounds of force will be available at "X" if there is no mechanical loss? (See illustration GS-0158)

A. 36
B. 108
C. 162
D. 324

02289. The dashed line to the illustrated pump is the _____.
(See illustration GS-0049)

A. pump relief valve outlet to the sump
B. pump capacity control feedback loop
C. casing drain
D. system replenishing line

02413. In the system illustrated, valve "D" is used for _____.
(See illustration GS-0049)

A. load counter balance control
B. normal unloading of the hydraulic system
C. sequential operation of the load
D. the excess pressure relief of the system

02417. According to Coast Guard Regulations (CFR 46) the valve illustrated is to be constructed so that the _____.
(See illustration GS-0055)

A. operating lever is parallel to the pipe center line when closed and perpendicular to the pipe center line when open
B. valve can have additional turns of packing added when there is pressure on either side of the valve disk
C. operating lever is parallel to the flow when open and perpendicular to the flow when closed
D. can be either fully opened or fully closed

02420. The device shown in the illustration is a _____.
(See illustration GS-0056)

A. ball check valve
B. lift check valve
C. swing check valve
D. piston check valve

02423. Regarding the hydraulic transmission illustrated, the "A" end is a _____. (See illustration GS-0057)

A. variable stroke motor
B. fixed displacement pump
C. variable stroke pump
D. fixed displacement motor

02427. In hydraulics, the graphic symbol illustrated in Fig. A is used to represent a/an _____. (See illustration GS-0068)

A. variable resistor
B. expansion joint
C. spring
D. flexible mount

02428. What is the reading of the vernier micrometer caliper scale shown in figure "A" in the illustration? (See illustration GS-0083)

A. 0.8158 inch
B. 0.8228 inch
C. 0.8358 inch
D. 0.8388 inch

02429. The reading indicated on a vernier micrometer caliper scale is .8388 inches. Which of the figures illustrated represents this reading? (See illustration GS-0091)

A. Figure A
B. Figure C
C. Figure D
D. Figure F

02436. The reading indicated on a vernier micrometer caliper scale is .2928 inches. Which of the figures in the illustration represents this reading? (See illustration GS-0091)

A. Figure B
B. Figure C
C. Figure E
D. Figure F

02437. The reading on the micrometer scale shown in figure "II" in the illustration is _____. (See illustration GS-0095)

A. 0.321 inch
B. 0.350 inch
C. 0.351 inch
D. 0.371 inch

02438. What is the reading of the vernier caliper scale shown in figure "F" in the illustration? (See illustration GS-0092)

A. 1.7212 inch
B. 1.7230 inch
C. 2.7230 inch
D. 3.7230 inch

02439. Which of the illustrated figures represents the use of a right hand roughing tool? (See illustration GS-0090)

A. Figure P
B. Figure S
C. Figure T
D. Figure V

02445. If the "B" end of the hydraulic transmission illustrated, were provided with a variable position tilting box, and the "A: end displacement were to be constant, the _____. (See illustration GS-0057)

A. speed output of the "B" end would increase in proportion as the tilting box angle would approach zero
B. available horsepower at the "B" end would increase in proportion as the tilting box angle would approach zero stroke
C. speed output of the "B" end would increase in proportion to increasing the "B" end tilting box angle
D. available horsepower at the "B" end would increase in proportion to decreasing the angle of the "B" end tilting box towards zero

02448. What is the reading of the vernier caliper scale shown in figure "B" in the illustration? (See illustration GS-0092)

A. 3.7850 inch
B. 5.3700 inch
C. 5.8050 inch
D. 6.3700 inch

02458. The illustration device is used to _____.
(See illustration GS-0069)

A. force a uniformly heated sample of oil by applied pressure, through the bottom orifice with in a specified time
B. allow a uniformly heated 60 c.c. sample of oil to gravitate through the bottom orifice, using the time as a measurement viscosity
C. determine the temperature at which vapors are produced, ignited, and extinguished
D. measure the volatility of an oil sample, by determining the resulting pressure as the volume of vapor is continually increased

02459. The pressure in a high pressure refrigeration system about to be opened for repair should be _____.

A. 1 to 2 psig
B. 4 to 7 psig
C. 11 to 12 psig
D. 0 psig

02469. The type of welded joint illustrated is referred to as a/an _____.
(See illustration GS-0078)

A. socket weld
B. edge weld
C. butt weld
D. annulus weld

02478. If the "B" end of the hydraulic transmission illustrated were provided with a variable position tilting box, and the "A" end displacement were to be constant, the _____. (See illustration GS-0057)

A. speed output of the "B" end would decrease in proportion as the tilting box would approach zero stroke
B. available horsepower at the "B" end would increase in proportion as the tilting box would approach zero stroke
C. speed output of the "B" would increase in proportion to increasing the "B" end tilting box angle
D. available horsepower at the "B" would increase in proportion to the increasing angle of the "B" end tilting box angle

02487. The illustrated valve is _____. (See illustration GS-0055)

A. opened or closed by moving the control lever through one or more complete turns
B. required to be closed by moving the control handle counter clockwise
C. quickly opened when the control lever is rotated one full turn
D. quickly opened by moving the control lever by one-quarter of a turn

02489. If a block and tackle arrangement were rigged as shown in figure "D" in the illustration, the amount of force "P" required to hold the 225 pound load stationary would be _____.
(See illustration GS-0110)

A. 34 lbs
B. 45 lbs
C. 75 lbs
D. 90 lbs

02503. The best method in assisting the proper alignment and welding of the flange and pipe shown in the illustration is to _____. (See illustration GS-0078)

A. insert a temporary sleeve into the pipe for alignment
B. tack weld flat iron straps from the flange to the pipe to complete the fabrication
C. slip a temporary sleeve around the pipe
D. stand the flange on end vertically position the pipe on the flange, tack weld, then lay flat to complete the fabrication

02505. What is the reading of the vernier caliper scale shown in figure "C" in the illustration? (See illustration GS-0092)

A. 3.3750 inch
B. 3.3500 inch
C. 3.4750 inch
D. 4.3750 inch

02506. The reading on the micrometer scale shown in figure "G" in the illustration is _____. (See illustration GS-0013)

A. 0.327 inch
B. 0.350 inch
C. 0.352 inch
D. 0.355 inch

02507. The reading on the micrometer scale shown in figure "1" in the illustration is _____. (See illustration GS-0094)

A. 0.800 inch
B. 0.820 inch
C. 0.850 inch
D. 0.875 inch

02508. Oil is returned to the illustrated radial piston hydraulic pump piston(s) numbered as _____. (See illustration GS-0059)

A. 1
B. 2
C. 3
D. 2 and 3

02510. If a block and tackle arrangement were rigged as shown in figure "D" in the illustration, the amount of force "P" required to hold the 233 pound load stationary would be _____. (See illustration GS-0110)

A. 35 lbs
B. 47 lbs
C. 78 lbs
D. 93 lbs

02516. Which of the listed illustrated figures represents the correct use of a lathe threading tool? (See illustration GS-0090)

A. Figures L/P
B. Figures L/U
C. Figures V/L
D. Figures V/P

02518. Which of the listed illustrated figures represents the use of a cutting off tool? (See illustration GS-0090)

A. Figure N
B. Figure O
C. Figure P
D. Figure U

02527. The function of the device illustrated is to _____. (See illustration GS-0048)

A. control steam input to a heat exchanger
B. control condensate output from a heat exchanger
C. provide on/off control of drain pump
D. provide air purging of low pressure refrigeration or air conditioning systems

02539. Which recovery phase will reduce the loss of oil during the recovery of refrigerants from small appliances such as a water cooler?

A. vapor recovery
B. liquid recovery
C. initial recovery
D. vapor-liquid recovery

02540. The device illustrated would be best used as a _____. (See illustration GS-0058)

A. variable capacity pump
B. variable or constant speed motor
C. power take-off driven lube oil pump
D. hydraulic hatch supply pump

02541. Large quantities of halogenated floro-carbons when released from refrigeration systems, will contribute to ozone depletion in the _____.

A. bathosphere
B. ionosphere
C. stratosphere
D. troposphere

02542. If the "B" end were driven by an electric motor and the "A" end were disconnected from the line terminals of the motor controller, the unit illustrated could then be used as a _____. (See illustration GS-0057)

A. mooring winch
B. variable ouptut alternator
C. fixed output alternator
D. hydraulic crane power supply

02546. The device illustrated is best used to _____. (See illustration GS-0080)

A. provided an alternative to a close nipple
B. assist in securing a coupling half to its shaft
C. secure pump casing flanges together
D. provided an alternative to the use tapered pins

02547. What is the reading of the vernier micrometer caliper scale shown in figure "D" in the illustration? (See illustration GS-0091)

A. 0.9253 inch
B. 0.9403 inch
C. 0.9453 inch
D. 0.9553 inch

02550. Which of the listed welded joints represents the least amount of preparation? (See illustration GS-0077)

A. 1B
B. 3A
C. 3B
D. 4A

02552. A micrometer scale reading is indicated as 0.327 inches and is represented in the illustration by _____.
(See illustration GS-0013)

A. Figure B
B. Figure C
C. Figure G
D. Figure H

02553. What is the reading of the vernier micrometer caliper scale shown in figure "B" in the illustration? (See illustration GS-0091)

A. 0.2228 inch
B. 0.2928 inch
C. 0.3008 inch
D. 0.3028 inch

02558. Which of the following statements regarding the illustrated device is true? (See illustration GS-0056)

A. If the valve disk is damaged, the entire valve unit must be replaced.
B. The plug, located in the upper left portion of the valve body can be removed to install a feedback pipe line if the valve is to be used as a pilot choke.
C. The cap determines the height of lift of the swinging valve disk.
D. The valve disk alone can be removed for replacement or reconditioning.

02559. The greatest drawback in the use of the device illustrated on large ocean going vessels is the _____. (See illustration GS-0101)

A. use of a skeg for mounting
B. large requirement of torque to swing this rudder
C. positioning, directly aft of the propeller
D. necessity to construct the rudder in one large casting

02562. If a block and tackle arrangement were rigged as shown in figure "D" in the illustration, the amount of force "P" required to hold the 266 pound load stationary would be _____.
(See illustration GS-0110)

A. 40 lbs.
B. 53 lbs.
C. 56 lbs.
D. 89 lbs.

02582. The reading on the micrometer scale shown in figure "A" in the illustration is _____. (See illustration GS-0093)

A. 0.301 inch
B. 0.750 inch
C. 0.751 inch
D. 1.001 inch

02583. HCFC-22 has been recovered from a refrigeration system during replacement of the condenser. The refrigerant can be _____.

A. recycled into a system that had used HCFC-11
B. reclaimed as a low pressure system refrigerant
C. returned to the system
D. must be destroyed, as it can no longer be used

02586. The reading on the micrometer scale shown in figure "3" in the illustration is _____. (See illustration GS-0094)

A. 0.133 inch
B. 0.178 inch
C. 0.193 inch
D. 0.250 inch

02588. A micrometer scale reading is indicated as 0.438 inches and is represented in the illustration by _____.
(See illustration GS-0013)

A. Figure A
B. Figure C
C. Figure G
D. Figure H

02589. All refrigerant recovered from burned out small appliances must be _____.

A. sent to a designated reclamation facility for processing
B. contained in a refillable cylinder
C. destroyed although it can be reused
D. used to clean out burn-outs

02590. Which of the listed illustrated figures represents the use of a lathe finishing tool? (See illustration GS-0090)

A. Figure P
B. Figure S
C. Figure T
D. Figure V

02592. The lathe tool shown as figure "V" in the illustration is commonly known as a/an _____. (See illustration GS-0090)

A. cutting-off tool
B. left-cut, side-facing tool
C. right hand turning tool
D. universal turning tool

02594. In preparing to purge a refrigeration condenser for a large multibox water cooled type III system, all of the refrigerant in the system should be _____.

A. at a superheated temperature
B. pumped to the receiver
C. pumped to the evaporator
D. at a saturated temperature

02596. The reading on the micrometer scale shown in figure "C" in the illustration is _____. (See illustration GS-0013)

A. 0.325 inch
B. 0.349 inch
C. 0.361 inch
D. 0.453 inch

02597. When recovering R-12 from a small appliance with a working compressor, using a recovery device manufactured after November 15, 1993, what percentage of the remaining charge must be removed from the system?

A. 75%
B. 80%
C. 90%
D. 99%

02603. Overfilling a refrigerant container is extremely dangerous because of the high pressures generated. The generation of pressure is the_____.

A. vapor pressure of the refrigerant
B. discharge pressure of the recovery compressor
C. hydrostatic pressure of the expanding liquid
D. discharge pressure from the recovery cylinder

02604. The reading indicated on a vernier micrometer caliper scale is .3107 inches. Which of the figures in the illustration represents this reading? (See illustration GS-0091)

A. Figure B
B. Figure C
C. Figure E
D. Figure F

02608. The hydraulic graphic symbol illustrated in Fig. B is used to represent a/an _____. (See illustration GS-0068)

A. variable orifice
B. piloted choke
C. belle ville spring
D. check valve

02611. Figure "D" in the illustration is an improperly installed hose with a restriction developed at the _____. (See illustration GS-0063)

A. right hand fitting being smaller than required
B. severe bend in loop
C. sharp bend formed at the left
D. indicated radial twist

02617. A micrometer scale reading is indicated as 0.148 inches and is represented in the illustration by _____.
(See illustration GS-0013)

A. Figure D
B. Figure E
C. Figure F
D. Figure I

02620. The reading on the micrometer scale shown in figure "B" in the illustration is _____. (See illustration GS-0093)

A. 0.402 inch
B. 0.410 inch
C. 0.412 inch
D. 0.415 inch

02621. With regards to the illustrated rudder, item "B" is referred to as the _____. (See illustration GS-0131)

A. rudder stock
B. rudder horn
C. fair water
D. gudgeon

02622. The reading indicated on a vernier micrometer caliper scale is .4715 inches. Which of the figure in the illustration represents this reading? (See illustration GS-0091)

A. Figure A
B. Figure C
C. Figure E
D. Figure F

02626. The illustrated thread form would be used with a/an _____.
(See illustration GS-0088)

A. pump shaft coupling nut
B. lathe lead screw
C. schedule 80 heavy iron pipe
D. 3/4-10 NC threaded stock

02628. The weld type illustrated and indicated as "5B" is known as a/an _____. (See illustration GS-0077)

A. X
B. K
C. double bevel
D. double J

02630. If the flow rate and pressurized oil from a variable capacity pump were supplied to the device illustrated, the _____.
(See illustration GS-0058)

A. speed would increase, horsepower and torque would decrease
B. speed would decrease, horsepower and torque would increase
C. horsepower, torque, and speed would increase proportionally
D. horsepower, torque, and speed would decrease proportionally

02632. If a block and tackle arrangement were rigged as shown in figure "D" in the illustration, the amount of force "P" required to hold the 283 pound load stationary would be _____.
See illustration GS-0110)

A. 42 lbs.
B. 94 lbs.
C. 113 lbs.
D. 114 lbs.

02633. If a block and tackle arrangement were rigged as shown in figure "D" in the illustration, the amount of force "P" required to hold the 283 pound load stationary would be _____.
(See illustration GS-0110)

A. 104 lbs
B. 107 lbs
C. 124 lbs
D. 125 lbs

02636. A simplex pump making 60 pumping strokes per minute has a 10 inch stroke and a 6 inch diameter water cylinder, which is 75% full for each stroke. How many gallons of water are discharged per hour?

A. 1,339 GPH
B. 3,305 GPH
C. 4,208 GPH
D. 6,610 GPH

02638. If you have a simplex single acting reciprocating pump making 100 strokes/minute with 6" diameter cylinder, and an 11" stroke with 90% volumetric efficiency, what is the capacity of this pump?

A. 61 gpm
B. 121 gpm
C. 242 gpm
D. 407 gpm

02640. Which of the illustrated lathe tools would be used to produce figure V? (See illustration GS-0009)

A. A
B. B
C. D
D. E

02646. In the hydraulic anchor windlass system illustrated, if the power to the electric motor is on, but the wildcat turns slowly or not at all, even without a load being applied, and nearly normal pressure is indicated on the high side of the system, the probable cause is the _____. (See illustration GS-0160)

A. replenishing pump coupling is broken
B. relief valve is not closing
C. manual transfer valve is in the wrong position for the main pump being operated
D. pressure from "E" has failed to bleed off when "J" is placed in the operating position

02649. Refrigerant leaks in a small shipboard water cooler _____.

A. must be repaired within 30 days
B. must be repaired if the annual leak rate is 35% of the total charge above 50 lbs
C. must be repaired if the annual leak rate is 15% of the total charge
D. do not have to and are not required to be repaired

02650. The reading on the micrometer scale shown in figure "III" in the illustration is _____. (See illustration GS-0095)

A. 0.631 inch
B. 0.642 inch
C. 0.687 inch
D. 0.692 inch

02651. As shown in the illustration, a section of standard weight, seamless steel pipe, has an external diameter of 7.8 inches. When the pipe, is bent into a 90 degree turn, the length of the outside edge of the curve "A-B" will exceed the length of the inside edge of the curve "C-D" by _____. (See illustration GS-0108)

A. 8.626 inches
B. 10.786 inches
C. 12.252 inches
D. 14.514 inches

02652. The intentional venting of class I and II refrigerants to the atmosphere within the territorial limits of the United States became unlawful on _____.

A. July 1, 1992
B. July 1, 1994
C. November 14, 1994
D. November 14, 1999

02657. If you have a simplex single acting reciprocating pump making 160 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 104 gpm
B. 52 gpm
C. 26 gpm
D. 91 gpm

02659. According to the detail shown in the device from the blue print illustrated, which of the fastenings listed should be used? (See illustration GS-0036)

A. pop rivet
B. flat heat slotted machine screw
C. carriage bolt
D. cap screw

02662. The device illustrated is referred to as a/an _____. (See illustration GS-0048)

A. Inverted bucket trap
B. upright bucket trap
C. "P" type trap
D. none of the above

02666. If you have a simplex single acting reciprocating pump making 160 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 183 gpm
B. 91 gpm
C. 128 gpm
D. 46 gpm

02668. If you have a duplex double acting reciprocating pump making 180 strokes/minute, with a 4" diameter cylinder, a 6" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 54 gpm
B. 81 gpm
C. 27 gpm
D. 108 gpm

02669. Small appliances with less than three pounds of refrigerant should be _____.

A. liquid charged
B. vapor charged
C. either vapor or liquid charged
D. initially liquid charged and then topped with a vapor charge

02670. Which of the figures in the fastener illustration GS-0080 would be used with figure "A" in illustration GS-0015?
(See illustration GS-0080 and GS-0015)

A. figure A
B. figure H
C. figure G
D. figure L

02671. Which of the illustrated lathe tools would be used to produce a smooth finish cut for figure I? (See illustration GS-0009)

A. A
B. D
C. F
D. G

02672. The steering gear shown in the illustration, when compared to the more conventional linear actuator ram units is/are _____.
(See illustration GS-0116)

A. less likely to sustain oil leaks
B. considered by inspection societies to be more dependable than the more conventional units due to the use of the vane motor
C. designed to be of lesser weight and size when compared with conventional units producing the same torque
D. all of the above are correct

02676. The device illustrated requires the use of which listed type of fastener? (See illustration GS-0036)

A. flat head, phillip screw
B. round head screw
C. fitted or body bolt
D. molly screw

02679. Figure "B" in the illustration is improperly installed. A restriction will develop in this hose at the _____. (See illustration GS-0063)

A. right hand end, regardless of the direction of flow
B. left hand end, regardless of the direction of flow
C. ahead of the direction of flow
D. trailing the direction of flow

02680. The thread machined on the device illustrated is a/an _____. (See illustration GS-0038)

A. one-eighth inch right-hand national coarse
B. one inch, right-hand national coarse
C. one-eighth inch, left-hand national coarse
D. one inch, left-hand national coarse

02681. Of the four refrigerants CFC-11, CFC-12, HFC-134a, and HCFC-22; HCFC-22 operates at the _____.

A. lowest system pressure with the lowest boiling point
B. highest system pressure with the lowest boiling point
C. lowest system pressure with the highest boiling point
D. highest system pressure with the highest boiling point

02683. Disposable refrigerant cylinders may contain a maximum amount of refrigerant of _____.

A. 50 pounds
B. 40 pounds
C. 30 pounds
D. 20 pounds

02686. If you have a simplex single acting reciprocating pump making 160 strokes/minute, with a 4" diameter cylinder, a 10" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 131 gpm
B. 33 gpm
C. 65 gpm
D. 163 gpm

02687. If oil under pressure is supplied between "N" and "I" in the illustration _____. (See illustration GS-0116)

A. "O" will be hydraulically locked in place even though oil is returned to the main pump from the area between "N" and the vane at "P"
B. "O" will rotate clockwise as oil is returned from the area between "N" and the vane located at "P"
C. "O" will rotate counter-clockwise as oil is returned from the area between "N" and the vane located at "P"
D. "Q" will rotate counter-clockwise as oil is returned from the area between "N" and the vane located at "P"

02688. As shown in the illustration, a section of standard weight, seamless steel pipe, has an external diameter of 7.3 inches. When the pipe, is bent into a 90 degree turn, the length of the outside edge of the curve "A-B" will exceed the length of the inside edge of the curve "C-D" by _____. (See illustration GS-0108)

A. 10.263 inches
B. 11.467 inches
C. 13.886 inches
D. 16.467 inches

02689. The lathe tool shown as figure "N" in the illustration is commonly known as a/an _____. (See illustration GS-0090)

A. hurling tool
B. curling tool
C. furling tool
D. knurling tool

02700. The reading on the micrometer scale shown in figure "D" in the illustration is _____. (See illustration GS-0013)

A. 0.204 inch
B. 0.245 inch
C. 0.254 inch
D. 0.279 inch

02701. The type of thread illustrated is a/an _____. (See illustration GS-0038)

A. acme thread
B. national coarse thread
C. square thread
D. can not be determined from information provided

02706. If you have a duplex double acting reciprocating pump making 180 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 60 gpm
B. 104 gpm
C. 119 gpm
D. 30 gpm

02707. Which of the illustrated lathe tools would be used to produce a rough cut for figure I? (See illustration GS-0009)

A. B
B. C
C. F
D. G

02708. If you have a duplex double acting reciprocating pump making 190 strokes/minute, with a 3" diameter cylinder, a 12" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 63 gpm
B. 126 gpm
C. 251 gpm
D. 31 gpm

02709. A high reading is only indicated at the salinity cells labeled "W" and "6" shown in the illustration. This would be the probable result of _____. (See illustration GS-0053)

A. a tube leak in item "IV", which contributes to a surging absolute pressure in "III"
B. a faulty cell at location "6" and a tube leak in item "I"
C. erosion of item "3" or the valve opened too wide if used
D. carryover from "III"

02710. Which of the figures in the fastener illustration GS-0080 would be used with figure "B" in illustration GS-0124?
(See illustration GS-0080 and GS-0015)

A. figure B
B. figure C
C. figure F
D. figure G

02718. If a block and tackle arrangement were rigged as shown in figure "D" in the illustration, the amount of force "P" required to hold the 346 pound load stationary would be _____.
(See illustration GS-0110)

A. 52 lbs.
B. 115 lbs.
C. 129 lbs.
D. 138 lbs.

02719. If you have a simplex single acting reciprocating pump making 100 strokes/minute with a 6" diameter cylinder, and a 10" stroke at an 80% volumetric efficiency, what is the capacity of this pump?

A. 98 gpm
B. 196 gpm
C. 49 gpm
D. 272 gpm

02720. If you have a simplex single acting reciprocating pump making 120 strokes/minute with a 5" diameter cylinder, a 5" stroke, and operating with a 93% volumetric efficiency, what is the capacity of this pump?

A. 38 gpm
B. 30 gpm
C. 61 gpm
D. 15 gpm

02721. CFC refrigerants exposed to high temperature or direct flame, will decompose and may produce _____.

A. methyl chloride
B. ammonia
C. hydrofluoric acid
D. ozone

02728. If you have a simplex single acting reciprocating pump making 200 strokes/minute with 3" diameter cylinder, a 4" stroke, and operating with a 93% volumetric efficiency, what is the capacity of this pump?

A. 11 gpm
B. 23 gpm
C. 40 gpm
D. 46 gpm

02729. If you have a simplex single acting reciprocating pump making 100 strokes/minute with a 6" diameter cylinder, a 7" stroke, operating with a 90% volumetric efficiency, what is the capacity of this pump?

A. 105 gpm
B. 39 gpm
C. 77 gpm
D. 107 gpm

02730. The reading on the micrometer scale shown in figure "E" in the illustration is _____. (See illustration GS-0013)

A. 0.112 inch
B. 0.137 inch
C. 0.148 inch
D. 0.151 inch

02732. If you have a simplex single acting reciprocating pump making 100 strokes/minute with a 6" diameter cylinder, a 4" stroke, operating with a 90% volumetric efficiency, what is the capacity of this pump?

A. 22 gpm
B. 20 gpm
C. 88 gpm
D. 44 gpm

02733. If you have a simplex single acting reciprocating pump making 110 strokes/minute with a 7" diameter cylinder, a 8" stroke, operating with a 91% volumetric efficiency, what is the capacity of this pump?

A. 267 gpm
B. 67 gpm
C. 133 gpm
D. 152 gpm

02736. As shown in the illustration, a section of standard weight seamless steel pipe, has an external diameter of 7.1 inches. When the pipe, is bent into a 90 degree turn, the length of the outside edge of the curve "A-B" will exceed the length of the inside edge of the curve "C-D" by _____. (See illustration GS-0108)

A. 11.153 inches
B. 13.635 inches
C. 16.153 inches
D. 20.106 inches

02738. If you have a simplex single acting reciprocating pump making 190 strokes/minute with a 6" diameter cylinder, a 5" stroke, and operating with an 88% volumetric efficiency, what is the capacity of this pump?

A. 102 gpm
B. 85 gpm
C. 51 gpm
D. 205 gpm

02739. If you have a simplex single acting reciprocating pump making 100 strokes/minute with a 6" diameter cylinder, a 5" stroke, and operating with a 90% volumetric efficiency, what is the capacity of this pump?

A. 55 gpm
B. 110 gpm
C. 38 gpm
D. 28 gpm

02741. The most cost-effective method of recovering refrigerant from a chiller with more than 5 lbs of refrigerant, to meet EPA requirements is to use a _____.

A. liquid pump
B. vapor recovery machine
C. liquid followed by vapor recovery
D. vapor followed by liquid recovery

02742. If you have a simplex single acting reciprocating pump making 100 strokes/minute with a 7" diameter cylinder, a 9" stroke, and operating at a 90% volumetric efficiency, what is the capacity of this pump?

A. 233 gpm
B. 135 gpm
C. 67 gpm
D. 270 gpm

02748. If you have a simplex single acting reciprocating pump making 100 strokes/minute with a 7" diameter cylinder, an 11" stroke, and operating with a 90% volumetric efficiency, what is the capacity of this pump?

A. 165 gpm
B. 330 gpm
C. 407 gpm
D. 82 gpm

02749. If you have a simplex single acting reciprocating pump making 100 strokes/minute with a 7" diameter cylinder, a 12" stroke, and operating with a 90% volumetric efficiency, what is the capacity of this pump?

A. 90 gpm
B. 180 gpm
C. 360 gpm
D. 529 gpm

02750. If you have a simplex single acting reciprocating pump making 100 strokes/minute with 7" diameter cylinder, and a 13" stroke with a 90% volumetric efficiency, what is the capacity of this pump?

A. 390 gpm
B. 97 gpm
C. 672 gpm
D. 195 gpm

02751. Which type of contamination will the reclamation process be unable to separate?

A. mixed refrigerants
B. acid
C. moisture
D. air

02752. In the hydraulic anchor windlass system illustrated, if the power to the electric motor is on, but the wildcat does not turn, and pressure can not be developed on either side of the system, the probable cause is the _____. (See illustration GS-0160)

A. replenishing pump coupling is broken
B. relief valve is not closing
C. manual transfer valve is in the wrong position for the main pump being operated
D. spring set point for "I" is too low

02760. The reading on the micrometer scale shown in figure "F" in the illustration is _____. (See illustration GS-0013)

A. 0.120 inch
B. 0.137 inch
C. 0.148 inch
D. 0.173 inch

02761. If you have a simplex single acting reciprocating pump making 100 strokes/minute with a 6" diameter cylinder, a 14" stroke with a 90% volumetric efficiency, what is the capacity of this pump?

A. 154 gpm
B. 840 gpm
C. 77 gpm
D. 308 gpm

02762. If you have a simplex single acting reciprocating pump making 100 strokes/minute with a 6" diameter cylinder, a 13" stroke, at 90% volumetric efficiency, what is the capacity of this pump?

A. 143 gpm
B. 286 gpm
C. 672 gpm
D. 72 gpm

02763. When removing the primary refrigerant from a system using water as a secondary refrigerant, it is important to follow which procedure(s) to safeguard the equipment?

A. Insure that the water doesn't become contaminated with oil in the direct contact heat exchanger.
B. Insure that the water and refrigerant separator is functioning properly.
C. Insure that the water is drained or continually circulating to avoid freeze-up.
D. Leave some refrigerant in the system to prevent the water from contaminating the refrigerant if there is a leak.

02768. If you have a simplex single acting reciprocating pump making 100 strokes/minute with a 6" diameter cylinder, a 12" stroke with a volumetric efficiency of 90%, what is the capacity of this pump?

A. 66 gpm
B. 132 gpm
C. 264 gpm
D. 529 gpm

02770. If a block and tackle arrangement were rigged as shown in figure "D" in the illustration, the amount of force "P" required to hold the 396 pound load stationary would be _____.
(See illustration GS-0110)

A. 79 lbs
B. 98 lbs
C. 118 lbs
D. 132 lbs

02772. If you have a duplex single acting reciprocating pump making 100 strokes/minute with a 7" diameter cylinder, an 11" stroke and operating at a 90% volumetric efficiency, what is the capacity of this pump?

A. 82 gpm
B. 165 gpm
C. 330 gpm
D. 407 gpm

02773. If you have a duplex single acting reciprocating pump making 100 strokes/minute, with a 7" diameter cylinder, a 12" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 360 gpm
B. 90 gpm
C. 180 gpm
D. 529 gpm

02776. The lathe tool shown as figure "R" in the illustration is commonly known as a/an _____. (See illustration GS-0090)

A. right-cut roughing tool
B. left-cut side-facing tool
C. right-cut side-facing tool
D. left-cut roughing tool

02777. Charging liquid CFC-11 into a system under a heavy vacuum could cause _____.

A. the purge unit to operate
B. system secondary refrigerant to freeze
C. air and moisture to enter the receiver
D. rupture disk to rupture

02779. As shown in the illustration, a section of standard weight seamless steel pipe, has an external diameter of 6.1 inches. When the pipe, is bent into a 90 degree turn, the length of the out side edge of the curve "A-B" will exceed the length of the inside edge of the curve "C-D" by _____. (See illustration GS-0108)

A. 6.189 inches
B. 7.291 inches
C. 9.006 inches
D. 9.582 inches

02780. If you have a duplex single acting reciprocating pump making 100 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 157 gpm
B. 77 gpm
C. 308 gpm
D. 840 gpm

02781. The EPA allows a large low pressure system to be pressurized during repairs by _____.

A. adding excess refrigerant
B. adding nitrogen
C. adding heat with controlled hot water
D. adding CFC-22

02782. If you have a duplex single acting reciprocating pump making 100 strokes/minute, with a 6" diameter cylinder, a 13" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 72 gpm
B. 143 gpm
C. 286 gpm
D. 672 gpm

02788. A micrometer scale reading is indicated as 0.361 inches and is represented in the illustration by _____.
(See illustration GS-0013)

A. Figure A
B. Figure B
C. Figure C
D. Figure G

02789. If you have a duplex single acting reciprocating pump making 100 strokes/minute, with a 6" diameter cylinder, a 12" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 529 gpm
B. 66 gpm
C. 132 gpm
D. 264 gpm

02790. If you have a duplex single acting reciprocating pump making 100 strokes/minute, with a 6" diameter cylinder, a 11" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 242 gpm
B. 407 gpm
C. 61 gpm
D. 121 gpm

02793. If you have a duplex single acting reciprocating pump making 100 strokes/minute, with a 6" diameter cylinder, a 10" stroke and operating with 80% volumetric efficiency, what is the capacity of this pump?

A. 98 gpm
B. 49 gpm
C. 196 gpm
D. 272 gpm

02796. If you have a simplex single acting reciprocating pump making 150 strokes/minute, with a 5" diameter cylinder, a 4" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 49 gpm
B. 99 gpm
C. 25 gpm
D. 32 gpm

02797. If you have a simplex single acting reciprocating pump making 200 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 77% volumetric efficiency, what is the capacity of this pump?

A. 92 gpm
B. 180 gpm
C. 183 gpm
D. 46 gpm

02799. Liquid recovery alone will typically remove the total refrigerant charge from a low pressure system up to _____.

A. 50%
B. 60%
C. 70%
D. 75%

02800. If you have a simplex single acting reciprocating pump making 120 strokes/minute, with a 5" diameter cylinder, a 6" stroke and operating with 81% volumetric efficiency, what is the capacity of this pump?

A. 25 gpm
B. 50 gpm
C. 59 gpm
D. 96 gpm

02801. If you have a duplex double acting reciprocating pump making 100 strokes/minute, with a 6" diameter cylinder, a 11" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 61 gpm
B. 242 gpm
C. 407 gpm
D. 121 gpm

02802. If you have a duplex double acting reciprocating pump making 100 strokes/minute, with a 6" diameter cylinder, a 12" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 529 gpm
B. 132 gpm
C. 264 gpm
D. 66 gpm

02803. If you have a duplex single acting reciprocating pump making 120 strokes/minute, with a 5" diameter cylinder, a 5" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 15 gpm
B. 38 gpm
C. 61 gpm
D. 30 gpm

02808. A micrometer scale reading is indicated as 0.246 inches and is represented in the illustration by _____.
(See illustration GS-0013)

A. Figure C
B. Figure D
C. Figure F
D. Figure I

02809. If a block and tackle arrangement were rigged as shown in figure "D" in the illustration, the amount of force "P" required to hold the 423 pound load stationary would be _____.
(See illustration GS-0110)

A. 141 lbs.
B. 156 lbs.
C. 169 lbs.
D. 185 lbs.

02810. If you have a duplex single acting reciprocating pump making 200 strokes/minute, with a 3" diameter cylinder, a 4" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 23 gpm
B. 11 gpm
C. 40 gpm
D. 46 gpm

02811. If you have a duplex single acting reciprocating pump making 100 strokes/minute, with a 6" diameter cylinder, a 7" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 39 gpm
B. 77 gpm
C. 154 gpm
D. 105 gpm

02812. If you have a simplex single acting reciprocating pump making 110 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 51 gpm
B. 61 gpm
C. 31 gpm
D. 123 gpm

02818. The reading on the micrometer scale shown in figure "H" in the illustration is _____. (See illustration GS-0013)

A. 0.154 inch
B. 0.413 inch
C. 0.438 inch
D. 0.450 inch

02819. A high reading is only indicated at the salinity cell labeled "6" shown in the illustration. This would be the probable result of _____.
(See illustration GS-0053)

A. a minor tube leak in the distillate condenser in item "III"
B. a faulty cell at this location
C. the compensating temperature is set too low for this cell location
D. All of the above

02820. As shown in the illustration, a section of standard weight seamless steel pipe, has an external diameter of 6.6 inches. When the pipe, is bent into a 90 degree turn, the length of the outside edge of the curve "A-B" will exceed the length of the inside edge of the curve "C-D" by _____. (See illustration GS-0108)

A. 10.367 inches
B. 13.006 inches
C. 15.367 inches
D. 19.059 inches

02821. If you have a duplex single acting reciprocating pump making 160 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 91 gpm
B. 26 gpm
C. 52 gpm
D. 104 gpm

02822. The lathe tool shown as figure "O" in the illustration is commonly used for _____. (See illustration GS-0090)

A. cutting-off
B. left hand side facing
C. right hand turning
D. grooving

02823. Minor repairs may be performed on low pressure refrigerant systems without recovering the refrigerant charge if the pressure in the system is raised to atmospheric. How may this be accomplished?

A. heat the refrigerant
B. pressurize the system with nitrogen
C. charge the system until it is completely filled with liquid refrigerant
D. open the system vent to the atmosphere and allow the pressure to equalize

02828. If you have a duplex single acting reciprocating pump making 100 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 28 gpm
B. 110 gpm
C. 38 gpm
D. 55 gpm

02830. If you have a duplex single acting reciprocating pump making 100 strokes/minute, with a 6" diameter cylinder, a 8" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 44 gpm
B. 88 gpm
C. 157 gpm
D. 176 gpm

02831. If you have a duplex single acting reciprocating pump making 100 strokes/minute, with a 7" diameter cylinder, a 9" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 67 gpm
B. 223 gpm
C. 135 gpm
D. 270 gpm

02833. If a block and tackle arrangement were rigged as shown in figure "D" in the illustration, the amount of force "P" required to hold the 423 pound load stationary would be _____.
(See illustration GS-0110)

A. 118 lbs
B. 127 lbs
C. 140 lbs
D. 150 lbs

02838. If your vessel burns 5 tons of fuel per hour at 23 knots, how many tons per hour will it burn at 18 knots?

A. 2.4 tons
B. 3.9 tons
C. 3.1 tons
D. 3.3 tons

02839. If you have a duplex double acting reciprocating pump making 100 strokes/minute, with a 7" diameter cylinder, a 13" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 672 gpm
B. 195 gpm
C. 970 gpm
D. 390 gpm

02840. If you have a duplex double acting reciprocating pump making 100 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 308 gpm
B. 154 gpm
C. 77 gpm
D. 840 gpm

02841. If you have a duplex double acting reciprocating pump making 100 strokes/minute, with a 6" diameter cylinder, a 13" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 143 gpm
B. 286 gpm
C. 726 gpm
D. 672 gpm

02842. If you have a duplex single acting reciprocating pump making 150 strokes/minute, with a 4" diameter cylinder, a 6" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 25 gpm
B. 59 gpm
C. 50 gpm
D. 99 gpm

02846. The reading on the micrometer scale shown in figure "I" in the illustration is _____. (See illustration GS-0013)

A. 0.220 inch
B. 0.246 inch
C. 0.250 inch
D. 0.253 inch

02847. If you have a duplex double acting reciprocating pump making 180 strokes/minute, with a 4" diameter cylinder, a 12" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 105 gpm
B. 314 gpm
C. 52 gpm
D. 209 gpm

02848. If the system illustrated is operated at sea and the strainer in line "4" becomes fouled, this will result in _____. (See illustration GS-0053)

A. a significant reduction in distillate production
B. pump "K" becoming vapor bound
C. the temperature regulated by "L" difficult to maintain
D. nothing unusual for the area of operation indicated

02850. Which of the illustrated lathe tools would be used to produce a rough cut to the left for the stock in figure IV? (See illustration GS-0009)

A. C
B. D
C. E
D. F

02851. Which of the figures in the fastener illustration GS-0080 would be used with figure "C" in illustration GS-0015? (See illustration GS-0080 and GS-0015)

A. figure A
B. figure D
C. figure F
D. figure K

02853. As shown in the illustration, a section of standard weight, seamless steel pipe, has an external diameter of 5.2 inches. When the pipe, is bent into a 90 degree turn, the length of the outside edge of the curve "A-B" will exceed the length of the inside edge of the curve "C-D" by _____. (See illustration GS-0108)

A. 7.980 inches
B. 8.168 inches
C. 13.168 inches
D. 16.127 inches

02856. If you have a duplex single acting reciprocating pump making 150 strokes/minute, with a 5" diameter cylinder, a 4" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 25 gpm
B. 99 gpm
C. 32 gpm
D. 49 gpm

02858. If you have a duplex single acting reciprocating pump making 200 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 77% volumetric efficiency, what is the capacity of this pump?

A. 92 gpm
B. 46 gpm
C. 180 gpm
D. 183 gpm

02859. If your vessel burns 6 tons of fuel per hour at 22 knots, how many tons per hour will it burn at 17 knots?

A. 4.6 tons
B. 3.9 tons
C. 2.8 tons
D. 1.7 tons

02860. If you have a duplex double acting reciprocating pump making 100 strokes/minute, with a 6" diameter cylinder, a 10" stroke and operating with 80% volumetric efficiency, what is the capacity of this pump?

A. 98 gpm
B. 272 gpm
C. 196 gpm
D. 49 gpm

02862. If you have a duplex double acting reciprocating pump making 150 strokes/minute, with a 4" diameter cylinder, a 6" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 59 gpm
B. 25 gpm
C. 50 gpm
D. 99 gpm

02866. If you have a duplex double acting reciprocating pump making 170 strokes/minute, with a 4" diameter cylinder, a 6" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 107 gpm
B. 53 gpm
C. 80 gpm
D. 27 gpm

02867. If you have a duplex double acting reciprocating pump making 150 strokes/minute, with a 5" diameter cylinder, a 4" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 49 gpm
B. 99 gpm
C. 32 gpm
D. 25 gpm

02870. If a block and tackle arrangement were rigged as shown in figure "G" in the illustration, the amount of force "P" required to hold the 236 pound load stationary would be _____.
(See illustration GS-0110)

A. 12 lbs
B. 59 lbs
C. 79 lbs
D. 94 lbs

02872. If you have a duplex double acting reciprocating pump making 200 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 77% volumetric efficiency, what is the capacity of this pump?

A. 46 gpm
B. 92 gpm
C. 183 gpm
D. 180 gpm

02873. If you have a simplex single acting reciprocating pump making 120 strokes/minute, with a 5" diameter cylinder, a 6" stroke and operating with 81% volumetric efficiency, what is the capacity of this pump?

A. 25 gpm
B. 59 gpm
C. 50 gpm
D. 99 gpm

02875. If you have a duplex double acting reciprocating pump making 200 strokes/minute, with a 3" diameter cylinder, a 4" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 11 gpm
B. 46 gpm
C. 23 gpm
D. 40 gpm

02876. If you have a duplex double acting reciprocating pump making 100 strokes/minute, with a 6" diameter cylinder, a 7" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 39 gpm
B. 77 gpm
C. 157 gpm
D. 105 gpm

02879. If your vessel burns 8 tons of fuel per hour at 15 knots, how many tons per hour will it burn at 19 knots?

A. 12.8 tons
B. 16.3 tons
C. 10.6 tons
D. 10.1 tons

02880. If you have a simplex single acting reciprocating pump making 100 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 110 gpm
B. 28 gpm
C. 55 gpm
D. 38 gpm

02881. If you have a duplex double acting reciprocating pump making 110 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 31 gpm
B. 123 gpm
C. 61 gpm
D. 51 gpm

02882. If you have a duplex double acting reciprocating pump making 100 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 22 gpm
B. 44 gpm
C. 88 gpm
D. 20 gpm

02883. If your vessel burns 8 tons of fuel per hour at 15 knots, how many tons per hour will it burn at 20 knots?

A. 11.7 tons
B. 10.7 tons
C. 19.0 tons
D. 14.2 tons

02886. If you have a duplex double acting reciprocating pump making 100 strokes/minute, with a 7" diameter cylinder, a 9" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 270 gpm
B. 67 gpm
C. 135 gpm
D. 223 gpm

02887. If you have a duplex double acting reciprocating pump making 100 strokes/minute, with a 7" diameter cylinder, a 11" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 82 gpm
B. 330 gpm
C. 165 gpm
D. 407 gpm

02888. If you have a duplex double acting reciprocating pump making 100 strokes/minute, with a 7" diameter cylinder, a 12" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 90 gpm
B. 180 gpm
C. 360 gpm
D. 529 gpm

02890. If you have a duplex single acting reciprocating pump making 120 strokes/minute, with a 5" diameter cylinder, a 6" stroke and operating with 81% volumetric efficiency, what is the capacity of this pump?

A. 25 gpm
B. 99 gpm
C. 59 gpm
D. 50 gpm

02891. The lubrication of a high speed bearing depends upon a system that produces _____.

A. adequate quantity at sufficient pressure
B. high detergent oil with pressure additives
C. constant viscosity lubrication
D. a minimum of 15 psi (103.4 kPa) to all parts of the system

02892. If you have a simplex single acting reciprocating pump making 110 strokes/minute, with a 5" diameter cylinder, a 10" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 94 gpm
B. 47 gpm
C. 187 gpm
D. 206 gpm

02893. If you have a simplex single acting reciprocating pump making 140 strokes/minute, with a 4" diameter cylinder, a 5" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 36 gpm
B. 45 gpm
C. 18 gpm
D. 72 gpm

02895. If you have a simplex single acting reciprocating pump making 120 strokes/minute, with a 3" diameter cylinder, a 4" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 14 gpm
B. 28 gpm
C. 19 gpm
D. 7 gpm

02896. If you have a simplex single acting reciprocating pump making 110 strokes/minute, with a 6" diameter cylinder, a 7" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 43 gpm
B. 86 gpm
C. 100 gpm
D. 172 gpm

02899. If you have a simplex single acting reciprocating pump making 110 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 51 gpm
B. 31 gpm
C. 61 gpm
D. 123 gpm

02900. If you have a simplex single acting reciprocating pump making 110 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 33 gpm
B. 49 gpm
C. 25 gpm
D. 98 gpm

02902. If a block and tackle arrangement were rigged as shown in figure "G" in the illustration, the amount of force "P" required to hold the 254 pound load stationary would be _____.
(See illustration GS-0110)

A. 13 lbs
B. 43 lbs
C. 64 lbs
D. 102 lbs

02903. If you have a simplex single acting reciprocating pump making 130 strokes/minute, with 5" diameter cylinder, a 8" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 82 gpm
B. 132 gpm
C. 164 gpm
D. 41 gpm

02906. If you have a simplex single acting reciprocating pump making 110 strokes/minute, with a 6" diameter cylinder, a 9" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 75 gpm
B. 150 gpm
C. 193 gpm
D. 300 gpm

02908. If you have a simplex single acting reciprocating pump making 110 strokes/minute, with a 8" diameter cylinder, a 11" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 240 gpm
B. 120 gpm
C. 329 gpm
D. 479 gpm

02909. If you have a simplex single acting reciprocating pump making 110 strokes/minute, with a 6" diameter cylinder, a 12" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 113 gpm
B. 225 gpm
C. 56 gpm
D. 270 gpm

02910. If you have a simplex single acting reciprocating pump making 110 strokes/minute, with a 6" diameter cylinder, a 13" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 159 gpm
B. 345 gpm
C. 319 gpm
D. 80 gpm

02911. If you have a simplex single acting reciprocating pump making 110 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 86 gpm
B. 172 gpm
C. 343 gpm
D. 400 gpm

02912. If you have a simplex single acting reciprocating pump making 110 strokes/minute, with a 7" diameter cylinder, a 13" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 217 gpm
B. 108 gpm
C. 403 gpm
D. 434 gpm

02914. The primary purpose of the thermostatic expansion valve in a typical multi-box shipboard refrigeration system is to _____.

A. control the refrigerated space temperature
B. regulate the compressor suction pressure
C. regulate the amount of refrigerant superheat leaving the evaporator
D. control the refrigerant temperature entering the evaporator

02916. The lathe tools shown as figure "M" in the illustration are commonly known as _____. (See illustration GS-0090)

A. form tools
B. curve cutting tools
C. parting tools
D. universal turning tools

02917. If you have a simplex single acting reciprocating pump making 110 strokes/minute, with a 5" diameter cylinder, a 12" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 102 gpm
B. 204 gpm
C. 51 gpm
D. 245 gpm

02920. A micrometer scale reading is indicated as 0.254 inches and is represented in the illustration by _____.
(See illustration GS-0013)

A. Figure C
B. Figure D
C. Figure G
D. Figure I

02922. If you have a duplex single acting reciprocating pump making 110 strokes/minute, with a 8" diameter cylinder, a 11" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 120 gpm
B. 329 gpm
C. 479 gpm
D. 240 gpm

02923. If you have a duplex single acting reciprocating pump making 120 strokes/minute, with a 5" diameter cylinder, a 12" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 113 gpm
B. 56 gpm
C. 225 gpm
D. 270 gpm

02926. As shown in the illustration, a section of standard weight, seamless steel pipe, has an external diameter of 4.6 inches. When the pipe, is bent into a 90 degree turn, the length of the outside edge of the curve "A-B" will exceed the length of the inside edge of the curve "C-D" by _____. (See illustration GS-0108)

A. 5.246 inches
B. 6.113 inches
C. 7.226 inches
D. 7.435 inches

02928. If a block and tackle arrangement were rigged as shown in figure "G" in the illustration, the amount of force "P" required to hold the 294 pound load stationary would be _____.
(See illustration GS-0110)

A. 74 lbs.
B. 90 lbs.
C. 98 lbs.
D. 118 lbs.

02929. If you have a duplex single acting reciprocating pump making 110 strokes/minute, with a 6" diameter cylinder, a 13" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 80 gpm
B. 159 gpm
C. 319 gpm
D. 345 gpm

02930. If you have a duplex single acting reciprocating pump making 110 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 86 gpm
B. 343 gpm
C. 172 gpm
D. 400 gpm

02931. If you have a duplex single acting reciprocating pump making 110 strokes/minute, with a 7" diameter cylinder, a 13" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 108 gpm
B. 434 gpm
C. 403 gpm
D. 217 gpm

02932. If you have a duplex single acting reciprocating pump making 110 strokes/minute, with a 5" diameter cylinder, a 12" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 102 gpm
B. 51 gpm
C. 204 gpm
D. 245 gpm

02936. If you have a duplex single acting reciprocating pump making 110 strokes/minute, with a 5" diameter cylinder, a 10" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 67 gpm
B. 135 gpm
C. 270 gpm
D. 245 gpm

02937. If you have a duplex single acting reciprocating pump making 110 strokes/minute, with a 5" diameter cylinder, a 10" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 47 gpm
B. 187 gpm
C. 94 gpm
D. 206 gpm

02938. If you have a simplex single acting reciprocating pump making 170 strokes/minute, with a 4" diameter cylinder, a 6" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 27 gpm
B. 107 gpm
C. 80 gpm
D. 53 gpm

02940. If you have a simplex single acting reciprocating pump making 170 strokes/minute, with a 5" diameter cylinder, a 4" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 25 gpm
B. 39 gpm
C. 49 gpm
D. 98 gpm

02942. If you have a simplex single acting reciprocating pump making 110 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 79% volumetric efficiency, what is the capacity of this pump?

A. 52 gpm
B. 26 gpm
C. 72 gpm
D. 103 gpm

02943. If you have a duplex double acting reciprocating pump making 130 strokes/minute, with a 4" diameter cylinder, a 12" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 79 gpm
B. 237 gpm
C. 158 gpm
D. 39 gpm

02946. If you have a duplex double acting reciprocating pump making 160 strokes/minute, with a 4" diameter cylinder, a 12" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 89 gpm
B. 266 gpm
C. 178 gpm
D. 44 gpm

02949. A micrometer scale reading is indicated as 0.349 inches and is represented in the illustration by _____.
(See illustration GS-0013)

A. Figure A
B. Figure B
C. Figure C
D. Figure G

02950. If the system illustrated is operated using the steam supply through "F" and the strainer in line "4" becomes fouled, this will result in _____. (See illustration GS-0053)

A. a reduction in distillate production
B. pump "K" becoming vapor bound
C. the temperature regulated by "L" difficult to maintain
D. nothing unusual for the type of operation indicated as this line was unnecessary in the installation

02951. In the illustrated system, which of the following readings should be indicated on the pressure gage? (See illustration GS-0062)

A. 8000 psi
B. 1000 psi
C. 64000 psi
D. 125 psi

02953. If a block and tackle arrangement were rigged as shown in figure "G" in the illustration, the amount of force "P" required to hold the 334 pound load stationary would be _____.
(See illustration GS-0110)

A. 54 lbs
B. 61 lbs
C. 77 lbs
D. 84 lbs

02956. If you have a simplex single acting reciprocating pump making 180 strokes/minute, with a 4" diameter cylinder, a 12" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 209 gpm
B. 52 gpm
C. 105 gpm
D. 314 gpm

02958. If you have a simplex single acting reciprocating pump making 140 strokes/minute, with a 5" diameter cylinder, a 6" stroke and operating with 83% volumetric efficiency, what is the capacity of this pump?

A. 59 gpm
B. 71 gpm
C. 30 gpm
D. 119 gpm

02959. If it is necessary to prevent the rudder from moving while a repair is made on the steering system using the illustrated actuator _____.
(See illustration GS-0116)

A. screw in the locking pin, item "J"
B. tighten the locking screws in item "S"
C. tighten the locking pins, item "H" at each position of item "I" to keep the rudder from swinging
D. secure the valves in the supply and return lines

02961. If you have a duplex single acting reciprocating pump making 180 strokes/minute, with a 4" diameter cylinder, a 5" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 59 gpm
B. 24 gpm
C. 94 gpm
D. 47 gpm

02963. Which of the illustrated lathe tools should be used to produce the groove in the stock in figure VII? (See illustration GS-0009)

A. B
B. D
C. E
D. G

02966. If you have a duplex single acting reciprocating pump making 180 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 626 gpm
B. 134 gpm
C. 268 gpm
D. 537 gpm

02967. Newly developed refrigerants, used to reduce stratospheric ozone depletion, are sometimes referred to as azeotropic. This means that the resulting liquid_____.

A. will condense at a temperature lower than the boiling point of the component with the lowest boiling point
B. boils at a temperature equal to the boiling point of the component with the lowest boiling point
C. will condense at a temperature equal to the highest condensation point of the component with a condensation point equal to any one of the components
D. boils at a temperature independent of any individual components in the mixture

02970. If you have a duplex double acting reciprocating pump making 110 strokes/minute, with a 5" diameter cylinder, a 10" stroke and operating with 83% volumetric efficiency, what is the capacity of this pump?

A. 67 gpm
B. 135 gpm
C. 247 gpm
D. 270 gpm

02971. If you have a duplex single acting reciprocating pump making 130 strokes/minute, with a 3" diameter cylinder, a 5" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 30 gpm
B. 9 gpm
C. 36 gpm
D. 18 gpm

02972. In the illustrated system, which of the following readings should be indicated on the pressure gage? (See illustration GS-0062)

A. 800 psi
B. 8000 psi
C. 80000 psi
D. 80 psi

02976. As shown in the illustration, a section of standard weight, seamless steel pipe, has an external diameter of 3.8 inches. When the pipe, is bent into a 90 degree turn, the length of the outside edge of the curve "A-B" will exceed the length of the inside edge of the curve "C-D" by _____. (See illustration GC-0108)

A. 1.097 inches
B. 1.571 inches
C. 4.712 inches
D. 5.969 inches

02977. With regards to the illustrated rudder, the pivot point and connection to the vessel is provided by _____. (See illustration GS-0131)

A. rudder stock
B. stern post
C. clevis post
D. gudgeon and pintle

02978. The compressor in figure 4, if permitted to operate as illustrated will _____. (See illustration GS-0159)

A. loose its volumetric efficiency
B. damage the bearings of the motor
C. trip the breaker when being restarted for the first time after replacing the belts
D. result in a constant enlargement of the clearance expansion volume

02979. The entire cab and boom of the hydraulic crane illustrated can rotate. The direction and rate of rotation is controlled by the _____. (See illustration GS-0161)

A. variable stroke pump (item #3)
B. main pump (item #13)
C. control valve (item #1)
D. manual control valve (item #10)

02980. The wire rope drum used in the illustrated hydraulic crane for lifting loads is prevented from accidentally paying out by _____. (See illustration GS-0161)

A. slightly shifting the hoist valve into position "I" to hold the load in a steady position
B. the installation of a braking valve in line "K" to the hydraulic motor
C. the use of a spring set, electric solenoid released brake
D. components labeled 4 and 5

02982. If a block and tackle arrangement were rigged as shown in figure "G" in the illustration, the amount of force "P" required to hold the 362 pound load stationary would be _____. (See illustration GS-0110)

A. 88 lbs
B. 91 lbs
C. 121 lbs
D. 145 lbs

02983. If you have a duplex single acting reciprocating pump making 130 strokes/minute, with a 5" diameter cylinder, a 4" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 42 gpm
B. 34 gpm
C. 21 gpm
D. 85 gpm

02986. If you have a duplex double acting reciprocating pump making 110 strokes/minute, with a 5" diameter cylinder, a 12" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 204 gpm
B. 102 gpm
C. 245 gpm
D. 51 gpm

02989. If you have a duplex single acting reciprocating pump making 180 strokes/minute, with a 3" diameter cylinder, a 4" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 21 gpm
B. 28 gpm
C. 11 gpm
D. 43 gpm

02990. If you have a simplex single acting reciprocating pump making 190 strokes/minute, with a 3" diameter cylinder, a 12" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 126 gpm
B. 63 gpm
C. 251 gpm
D. 31 gpm

02992. The discharge valve to pump "O" in the system illustrated is only opened by 25%, this will result in _____.
(See illustration GS-0053)

A. a reduction in distillate purity
B. the pump becoming vapor bound
C. valve "S" being actuated and dumping to the bilges after a few hours of operation
D. nothing unusual for the type of operation indicated

02993. If oil under pressure is supplied to the area between "N" and the vane located at "P" in the illustration _____.
(See illustration GS-0116)

A. "O" will be hydraulically locked in place even though oil is returned to the main pump from the area between "N" and "I"
B. "O" will rotate clockwise as oil is returned from the area between "N" and "I"
C. "O" will rotate counter-clockwise as oil is returned from the area between "N" and "I"
D. "Q" will rotate counter-clockwise as oil is returned from the area between "N" and "I"

02996. If you have a duplex single acting reciprocating pump making 150 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 119 gpm
B. 85 gpm
C. 42 gpm
D. 170 gpm

02997. In the illustrated system, which of the following readings should be indicated on the pressure gage? (See illustration GS-0062)

A. 10000 psi
B. 80000 psi
C. 1250 psi
D. 156.25 psi

02998. Which single illustrated lathe tool could be used to turn down the stock in figure II? (See illustration GS-0009)

A. A
B. B
C. C
D. G

02999. In the circle illustrated, the circumference is 56.52 inches. What is the area of the shaded portion? (See illustration GS-0134)

A. 23.1 square inches
B. 27.6 square inches
C. 21.7 square inches
D. 43.3 square inches

03000. If you have a duplex single acting reciprocating pump making 140 strokes/minute, with a 4" diameter cylinder, a 5" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 45 gpm
B. 36 gpm
C. 18 gpm
D. 72 gpm

03003. The working depth of the gear illustrated is represented by _____. (See illustration GS-0111)

A. A
B. B
C. C
D. I

03006. If you have a simplex single acting reciprocating pump making 170 strokes/minute, with a 4" diameter cylinder, a 11" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 45 gpm
B. 181 gpm
C. 91 gpm
D. 249 gpm

03007. If you have a duplex single acting reciprocating pump making 170 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 84 gpm
B. 50 gpm
C. 101 gpm
D. 202 gpm

03008. In the illustrated system, which of the following readings should be indicated on the pressure gage? (See illustration GS-0062)

A. 10000 psi
B. 100000 psi
C. 100 psi
D. 1000 psi

03009. In the illustrated system, which of the following readings should be indicated on the pressure gage? (See illustration GS-0062).

A. 291 psi
B. 832 psi
C. 628 psi
D. 220 psi

03010. In the circle illustrated, the circumference is 157.6 inches. What is the area of the shaded portion? (See illustration GS-0134)

A. 394.0 square inches
B. 168.5 square inches
C. 337.0 square inches
D. 179.6 square inches

03011. Oil is supplied to the steering gear illustrated _____.
(See illustration GS-0116)

A. through flexible hydraulic hoses via the connection ports located in the top surface of "O"
B. via the connections indicated as "J"
C. through high pressure piping at "A" and then internal ports provided in the housing assembly "U"
D. via hydraulic hoses connected to the orifices in "B"

03012. If you have a duplex single acting reciprocating pump making 120 strokes/minute, with a 3" diameter cylinder, a 4" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 19 gpm
B. 7 gpm
C. 14 gpm
D. 28 gpm

03016. If a block and tackle arrangement were rigged as shown in figure "G" in the illustration, the amount of force "P" required to hold the 378 pound load stationary would be _____.
(See illustration GS-0110)

A. 95 lbs
B. 119 lbs
C. 126 lbs
D. 151 lbs

03017. If you have a duplex single acting reciprocating pump making 150 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 73 gpm
B. 44 gpm
C. 87 gpm
D. 174 gpm

03018. The wire rope drum used in the illustrated hydraulic crane for lifting loads is prevented from accidentally paying out by _____.
(See illustration GS-0161)

A. using a bi-directional, variable stroke, hydraulic motor
B. a counter balance valve similar to that used in the boom circuit
C. the use of a spring set, hydraulically released brake and a braking valve
D. barely shifting valve #8 into envelope #"I"

03019. If you have a duplex single acting reciprocating pump making 150 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 47 gpm
B. 35 gpm
C. 140 gpm
D. 70 gpm

03021. In the illustrated system, which of the following readings should be indicated on the pressure gage? (See illustration GS-0062)

A. 66.66 psi
B. 8000 psi
C. 55.55 psi
D. 96000 psi

03022. If you have a simplex single acting reciprocating pump making 190 strokes/minute, with a 5" diameter cylinder, a 12" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 73 gpm
B. 291 gpm
C. 145 gpm
D. 349 gpm

03023. In the circle illustrated, the circumference is 125.6 inches. What is the area of the shaded portion? (See illustration GS-0134)

A. 234.0 square inches
B. 107.0 square inches
C. 114.1 square inches
D. 214.0 square inches

03026. If you have a simplex single acting reciprocating pump making 180 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 119 gpm
B. 30 gpm
C. 60 gpm
D. 104 gpm

03027. If you have a duplex single acting reciprocating pump making 110 strokes/minute, with a 6" diameter cylinder, a 7" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 100 gpm
B. 43 gpm
C. 172 gpm
D. 86 gpm

03028. In the illustration, line "K" is a _____.
(See illustration GS-0006)

A. dimension line
B. leader line
C. cutting plane line
D. phantom line

03029. The illustrated shaft has an overall length of 42 inches. If the diameter of "E" = 4.750" and "F" = 6", with an indicated radius of "R" = .125" and the taper per foot, "L" = 1.5"; then the tapered length "X" is _____. (See illustration GS-0133)

A. 6.000 inches
B. 7.812 inches
C. 8.000 inches
D. 10.00 inches

03030. You are responsible for operating an 8,000 GPD evaporator similar to the unit illustrated. The salt water feed pump and pump "N" are identically constructed. If the vapor pressure in chamber "II" is 2.1 psia, with a feed temperature of 170°F; operating pump "N" with the discharge valve 100% open will _____. (See illustration GS-0053)

A. produce the designed quantity of distillate
B. contribute to chamber "II" and "III" operating at the same absolute pressure
C. increase the purity of the distillate
D. produce a higher than normal brine concentrate

03032. The illustrated shaft has an overall length of 15 inches. If the diameter of "E" = 2.5" and "F" = 3.5", with an indicated radius of "R" = .125" and the length of the tapered section "X" is to be 5"; then the amount of tailstock offset should be _____? (See illustration GS-0133)

A. 0.750"
B. 0.833"
C. 1.250"
D. 1.500"

03033. If you have a duplex single acting reciprocating pump making 130 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 39 gpm
B. 30 gpm
C. 118 gpm
D. 59 gpm

03036. The compressor in figure 5, if permitted to operate as illustrated will _____. (See illustration GS-0159)

A. severely damage the V-grooves of the pulley
B. displace the crankshaft and increase the side thrust on the pistons
C. trip the breaker when being restarted for the first time after replacing the belts
D. permit the new belts to slip off

03037. If you have a duplex single acting reciprocating pump making 170 strokes/minute, with a 8" diameter cylinder, a 8" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 106 gpm
B. 170 gpm
C. 53 gpm
D. 213 gpm

03038. In the circle illustrated, the circumference is 75.36 inches. What is the area of the shaded portion? (See illustration GS-0134)

A. 65.0 square inches
B. 41.1 square inches
C. 38.5 square inches
D. 77.0 square inches

03039. The valve in the line, labeled "C" in the illustrated system, should be opened _____. (See illustration GS-0163)

A. when filling the tank
B. when discharging the pulverized material after it has been fluidized and aerated.
C. after the tank is full to check the level of bulk material
D. when the tank is empty to prevent condensation from accumulating

03040. In the illustrated system, which of the following readings should be indicated on the pressure gage? (See illustration GS-0062).

A. 785 psi
B. 353 psi
C. 629 psi
D. 283 psi

03041. The maximum diameter of the device illustrated is _____. (See illustration GS-0008)

A. 1.275 inches
B. 1.522 inches
C. 1.749 inches
D. 3.752 inches

03042. The section of flange illustrated and indicated as "D" is a _____.(See illustration GS-0018)

A. van stone flange
B. socket weld flange
C. slip type and welded flange
D. threaded flange

03043. Which of the listed welded joints represents the least amount of preparation? (See illustration GS-0077)

A. 1B
B. 3A
C. 3B
D. 4A

03044. If you have a duplex single acting reciprocating pump making 150 strokes/minute, with a 6" diameter cylinder, a 8" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 140 gpm
B. 186 gpm
C. 70 gpm
D. 279 gpm

03046. If a block and tackle arrangement were rigged as shown in figure "G" in the illustration, the amount of force "P" required to hold the 394 pound load stationary would be _____. (See illustration GS-0110)

A. 70 lbs
B. 82 lbs
C. 99 lbs
D. 131 lbs

03050. If you have a duplex single acting reciprocating pump making 120 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 68 gpm
B. 56 gpm
C. 34 gpm
D. 135 gpm

03051. The backlash of the gear illustrated is represented by _____. (See illustration GS-0111)

A. G
B. M
C. N
D. O

03052. If you have a duplex double acting reciprocating pump making 110 strokes/minute, with a 4" diameter cylinder, a 6" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 33 gpm
B. 50 gpm
C. 67 gpm
D. 17 gpm

03053. You are responsible for operating an 8,000 GPD evaporator similar to the unit illustrated. The salt water feed pump and pump "N" are identically constructed. If the vapor pressure in chamber "II" is 2.1 psia, with a feed temperature of 170°F; operating pump "N" with the discharge valve only 75% open, this will more than likely _____. (See illustration GS-0053)

A. produce the designed quantity of distillate
B. contribute to chamber "II" and "III" operating at the same absolute pressure
C. increase the purity of the distillate
D. decrease the purity of the distillate

03056. If you have a duplex single acting reciprocating pump making 130 strokes/minute, with a 4" diameter cylinder, a 9" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 133 gpm
B. 59 gpm
C. 30 gpm
D. 118 gpm

03057. In the illustrated system, which of the following readings should be indicated on the pressure gage? (See illustration GS-0062).

A. 255 psi
B. 565 psi
C. 942 psi
D. 424 psi

03059. If you have a duplex double acting reciprocating pump making 150 strokes/minute, with a 7" diameter cylinder, a 13" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 277 gpm
B. 491 gpm
C. 453 gpm
D. 113 gpm

03060. In the hydraulic anchor windlass system illustrated, pressure relief of the main pressure piping is provided by _____.
(See illustration GS-0160)

A. D
B. E
C. L
D. M

03061. In the illustration which of the pair of letters represent the same physical features of the device shown? (See illustration GS-0033)

A. B and C
B. A and D
C. A and B
D. B and D

03066. In the illustration, line "F" is a/an _____.
(See illustration GS-0006)

A. assembly line
B. break line
C. cutting plane line
D. phantom line

03067. If you have a duplex double acting reciprocating pump making 130 strokes/minute, with a 5" diameter cylinder, a 13" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 134 gpm
B. 347 gpm
C. 267 gpm
D. 67 gpm

03068. If you have a simplex single acting reciprocating pump making 170 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 196 gpm
B. 98 gpm
C. 137 gpm
D. 49 gpm

03069. In the diagram, items "2A and 2B" represent the overboard discharge valves of the ballast system illustrated. Which of the following statements is correct if the length between perpendiculars is 500 feet, and the through hull opening is four feet above the summer loadline?
(See illustration GS-0125)

A. Valve 2A must be positive closing, in addition to the indicated automatic non-return valve.
B. Valve 2B must be positive closing, in addition to the indicated automatic non-return valve.
C. Both valves must be positive closing, in addition to the ability to provide automatic non-return.
D. Only one valve is required, but must be positive closing and of the automatic non-return type.

03071. Figure "I" shown in the illustration is a diagram of a valve handwheel, with S=10 and T=50 lbs. When an 48 inch cheater bar is used instead, and V=50 lbs., as shown in Figure "II", how much does the torque on the valve stem increase with the use of the cheater bar? (See illustration GS-0109)

A. 480%
B. 102%
C. 4900%
D. 500%

03072. The illustrated shaft has an overall length of 42 inches. If the diameter of "F" = 6" and "X" = 6", with an indicated radius of "R" = .125" and a taper per foot, of "L" = 1.5"; then the small diameter "E" is _____. (See illustration GS-0133)

A. 5.000 inches
B. 6.000 inches
C. 6.333 inches
D. 7.812 inches

03073. If you have a duplex single acting reciprocating pump making 110 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 33 gpm
B. 49 gpm
C. 49 gpm
D. 98 gpm

03076. If a block and tackle arrangement were rigged as shown in figure "G" in the illustration, the amount of force "P" required to hold the 478 pound load stationary would be _____. (See illustration GS-0110)

A. 82 lbs
B. 111 lbs
C. 115 lbs
D. 120 lbs

03077. In the illustrated system, which of the following readings should be indicated on the pressure gage? (See illustration GS-0062)

A. 611 psi
B. 471 psi
C. 942 psi
D. 306 psi

03078. If you have a duplex double acting reciprocating pump making 130 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 207 gpm
B. 483 gpm
C. 104 gpm
D. 414 gpm

03079. In the circle illustrated, the circumference is 35.84 feet. What is the area of the shaded portion? (See illustration GS-0134)

A. 2.7 square feet
B. 0.5 square feet
C. 9.3 square feet
D. 17.4 square feet

03080. If you have a duplex double acting reciprocating pump making 150 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 244 gpm
B. 570 gpm
C. 122 gpm
D. 488 gpm

03081. A valve connected to the vent line labeled "C" in the illustration should be opened _____. (See illustration GS-0163)

A. when flushing the pressure tank with firemain water
B. by a pressure relief valve when the pressure exceeds the preset level, usually 42 psig (2.98 kg/cm2)
C. at all times, except when the tank is pressurized for discharging or aerating the bulk material
D. when filling the tank or to insure that the tank is not pressurized prior to entering for cleaning and inspection

03082. In the hydraulic anchor windlass system illustrated, pressurized fluid flow to provide rotation of the wildcat is produced by _____. (See illustration GS-0160)

A. A
B. F
C. J
D. K

03083. If you have a duplex single acting reciprocating pump making 110 strokes/minute, with a 7" diameter cylinder, a 8" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 152 gpm
B. 67 gpm
C. 133 gpm
D. 267 gpm

03086. If you have a duplex double acting reciprocating pump making 170 strokes/minute, with a 5" diameter cylinder, a 9" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 226 gpm
B. 113 gpm
C. 204 gpm
D. 57 gpm

03087. The letter "H" of the illustrated gear, represents the _____. (See illustration GS-0111)

A. tooth profile
B. tooth fillet
C. bottom land
D. top land

03088. The safety feature for assisting the illustrated hydraulic crane to maintain the required boom angle is a function of the _____. (See illustration GS-0161)

A. braking valve
B. counter-balance valve
C. control valve (item #9)
D. sequencing valve (item #7)

03089. If you have a duplex double acting reciprocating pump making 130 strokes/minute, with a 5" diameter cylinder, a 13" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 267 gpm
B. 134 gpm
C. 347 gpm
D. 67 gpm

03090. If you have a duplex double acting reciprocating pump making 170 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 81 gpm
B. 54 gpm
C. 161 gpm
D. 40 gpm

03091. The illustrated shaft has an overall length of 42 inches. If the diameter of "E" = 4.75" and "F" = 6", with an indicated radius of "R" = .125" and the length of "X" = 8"; then the TPF (taper per foot) is _____. (See illustration GS-0133)

A. 1.125 TPF
B. 1.250 TPF
C. 1.500 TPF
D. 1.875 TPF

03093. In the hydraulic crane illustrated, the hydraulic motor shows signs of rotating with difficulty and is rising in temperature. The probable cause is the _____. (See illustration GS-0160)

A. item #5 is not opening
B. item #4 does not actuate and prevents the brake from releasing
C. drain line from the hydraulic motor casing has become blocked
D. hydraulic pump is producing a higher than designed flow rate

03095. If you have a duplex single acting reciprocating pump making 110 strokes/minute, with a 6" diameter cylinder, a 9" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 193 gpm
B. 75 gpm
C. 300 gpm
D. 150 gpm

03096. If you have a duplex double acting reciprocating pump making 150 strokes/minute, with a 6" diameter cylinder, a 13" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 453 gpm
B. 227 gpm
C. 491 gpm
D. 113 gpm

03097. In the illustrated system, which of the following readings should be indicated on the pressure gage? (See illustration GS-0062)

A. 318 psi
B. 796 psi
C. 314 psi
D. 785 psi

03098. In the hydraulic anchor windlass system illustrated, pressurized fluid flow is provided to the main system for automatic replenisment and to _____. (See illustration GS-0160)

A. release the spring set brake
B. provide fluid flow to the servo control unit
C. shift valve "L" to line up the fluid motor relief valve
D. move stored oil across the indicated filter to maintain the oil in a water free condition

03099. In the circle illustrated, the circumference is 43.96 feet. What is the area of the shaded portion? (See illustration GS-0134)

A. 10.5 square feet
B. 14.0 square feet
C. 2.4 square feet
D. 26.2 square feet

03102. If a block and tackle arrangement were rigged as shown in figure "G" in the illustration, the amount of force "P" required to hold the 594 pound load stationary would be _____.
(See illustration GS-0110)

A. 149 lbs
B. 160 lbs
C. 198 lbs
D. 238 lbs

03103. If you have a duplex single acting reciprocating pump making 270 strokes/minute, with a 4" diameter cylinder, a 6" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 99 gpm
B. 66 gpm
C. 33 gpm
D. 132 gpm

03105. The physical feature indicated for each of the smallest diameter ends of the device illustrated is that they are _____.
(See illustration GS-0008)

A. threaded
B. smooth surfaced with opposing machined flats
C. smoothed surfaced only
D. threaded with opposing machined flats

03106. If you have a duplex single acting reciprocating pump making 120 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 83% volumetric efficiency, what is the capacity of this pump?

A. 38 gpm
B. 76 gpm
C. 66 gpm
D. 19 gpm

03107. As shown in the illustration, the total number of materials indicated is _____.(See illustration GS-0018)

A. one
B. three
C. four
D. five

03108. In the circle illustrated, the circumference is 62.8 feet. What is the area of the shaded portion? (See illustration GS-0134)

A. 28.5 square feet
B. 38.5 square feet
C. 15.1 square feet
D. 53.5 square feet

03109. If you have a duplex double acting reciprocating pump making 110 strokes/minute, with a 6" diameter cylinder, a 13" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 319 gpm
B. 159 gpm
C. 345 gpm
D. 80 gpm

03115. If you have a duplex single acting reciprocating pump making 150 strokes/minute, with a 3" diameter cylinder, a 5" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 35 gpm
B. 11 gpm
C. 21 gpm
D. 42 gpm

03116. If you have a duplex single acting reciprocating pump making 180 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 104 gpm
B. 60 gpm
C. 30 gpm
D. 119 gpm

03117. In the unit illustrated, the feedwater temperature is required to be increased to 165°F or greater and must exsist at this temperature when leaving _____. (See illustration GS-0053)

A. I
B. III
C. IV
D. V

03118. If you have a duplex single acting reciprocating pump making 220 strokes/minute, with a 3" diameter cylinder, a 5" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 29 gpm
B. 49 gpm
C. 59 gpm
D. 15 gpm

03120. In the diagram, items "2A and 2B" represent the overboard discharge valves of the ballast system illustrated. Which of the following statements is correct if the length between perpendiculars is 500 feet, and the through hull opening is eleven feet above the summer loadline? (See illustration GS-0125)

A. Valve 2A must be positive closing, in addition to the indicated automatic non-return valve.
B. Valve 2B must be positive closing, in addition to the indicated automatic non-return valve.
C. Only one automatic non-return valve is required.
D. Both valves are correct as indicated in the illustration.

03121. In the hydraulic anchor windlass system illustrated, the main pressure relief valve opens as the load increases its strain on the system. The probable cause is the _____. (See illustration GS-0160)

A. replenishing pump discharge check valves are continuously open
B. relief valve control shuttle has shifted to the wrong position during the windlass operation
C. manual transfer valve is in the wrong position for the main pump being operated
D. spring set point for "I" is too high for normal loads

03122. The illustrated shaft has an overall length of 42 inches. If the diameter of "E" = 2.500" and "F" = 3.750", with an indicated radius of "R" = .125" and the taper per foot, "L" = 1.5"; then the tapered length "X" is _____. (See illustration GS-0133)

A. 5.000 inches
B. 6.000 inches
C. 8.000 inches
D. 10.00 inches

03123. The gear clearance of the illustrated gear is represented by _____. (See illustration GS-0111)

A. B
B. D
C. G
D. M

03125. A valve attached to line "H" in the illustration, should be opened _____. (See illustration GS-0163)

A. to backflush the pressure vessel with jet air
B. as a gravity discharge for the fluidized material if the discharge line becomes clogged
C. to drain moisture and dirt from the bottom of the tank
D. to precharge the bottom of the pressure vessel with dry nitrogen prior to discharging bulk material

03126. If you have a duplex single acting reciprocating pump making 150 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 91 gpm
B. 26 gpm
C. 104 gpm
D. 52 gpm

03129. If you have a duplex double acting reciprocating pump making 110 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 172 gpm
B. 343 gpm
C. 400 gpm
D. 86 gpm

03130. The pitch radius of the gear illustrated is represented by _____. (See illustration GS-0111)

A. D
B. E
C. L
D. P

03132. If you have a duplex single acting reciprocating pump making 230 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 78% volumetric efficiency, what is the capacity of this pump?

A. 120 gpm
B. 34 gpm
C. 137 gpm
D. 68 gpm

03133. In the illustration, the area identified by 7/8" is an example of a _____.(See illustration GS-0016)

A. uniform diameter
B. radius
C. taper
D. chamfer

03137. If you have a duplex single acting reciprocating pump making 120 strokes/minute, with a 5" diameter cylinder, a 6" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 54 gpm
B. 65 gpm
C. 274 gpm
D. 109 gpm

03139. Line "C" as shown in the illustration represents _____. (See illustration GS-0033)

A. the diameter of the hole
B. a mechanical connection between the two items illustrated
C. a hidden line
D. the center of the items illustrated

03140. If you have a duplex double acting reciprocating pump making 110 strokes/minute, with a 7" diameter cylinder, a 13" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 217 gpm
B. 403 gpm
C. 434 gpm
D. 108 gpm

03141. If your ship burns 8 tons of fuel per hour at 15 knots, how many tons per hour will it burn at 18 knots?

A. 13.8 tons
B. 9.6 tons
C. 11.5 tons
D. 9.5 tons

03145. If a block and tackle arrangement were rigged as shown in figure "G" in the illustration, the amount of force "P" required to hold the 642 pound load stationary would be _____. (See illustration GS-0110)

A. 132 lbs.
B. 161 lbs.
C. 214 lbs.
D. 257 lbs.

03146. If you have a duplex single acting reciprocating pump making 210 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 77% volumetric efficiency, what is the capacity of this pump?

A. 62 gpm
B. 108 gpm
C. 31 gpm
D. 123 gpm

03148. If you have a duplex double acting reciprocating pump making 130 strokes/minute, with a 3" diameter cylinder, a 10" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 37 gpm
B. 74 gpm
C. 123 gpm
D. 18 gpm

03151. If you have a duplex single acting reciprocating pump making 170 strokes/minute, with a 4" diameter cylinder, a 6" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 80 gpm
B. 27 gpm
C. 107 gpm
D. 53 gpm

03152. Your ship has steamed 1786 miles at 17 knots using 515 tons of fuel oil. The distance remaining to your next port is 1922 miles. If you increase speed to 20 knots, how much fuel will be used to reach that port?

A. 902 tons
B. 767 tons
C. 858 tons
D. 652 tons

03155. If you have a simplex single acting reciprocating pump making 180 strokes/minute, with a 4" diameter cylinder, a 6" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 27 gpm
B. 108 gpm
C. 54 gpm
D. 81 gpm

03157. The illustrated shaft has an overall length of 42 inches. If the diameter of "F" = 3.75" and "X" = 6", with an indicated radius of "R" = .125" and a taper per foot, of "L" = 1.5"; then the small diameter "E" is _____. (See illustration GS-0133)

A. 2.500 inches
B. 4.333 inches
C. 5.333 inches
D. 10.00 inches

03158. Which of the listed illustrated figures represents the lathe tool used for facing figure VI? (See illustration GS-0009)

A. A
B. B
C. C
D. F

03159. If you have a duplex double acting reciprocating pump making 100 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 82% volumetric efficiency, what is the capacity of this pump?

A. 31 gpm
B. 55 gpm
C. 62 gpm
D. 16 gpm

03161. Figure "I" shown in the illustration is a diagram of a valve handwheel, with S=12 and T=50 lbs. When an 30 inch cheater bar is used instead, and V=50 lbs., as shown in Figure "II", how much does the torque on the valve stem increase with the use of the cheater bar?
(See illustration GS-0109)

A. 150%
B. 250%
C. 4000%
D. 600%

03162. If you have a duplex double acting reciprocating pump making 190 strokes/minute, with a 5" diameter cylinder, a 12" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 145 gpm
B. 349 gpm
C. 291 gpm
D. 73 gpm

03163. The compressor in figure 4, if permitted to operate as illustrated will _____. (See illustration GS-0159)

A. damage the bearings of the compressor
B. lose a percentage of its volumetric efficiency
C. trip the breaker when being restarted for the first time after replacing the belts
D. result in a constant enlargement of the clearance expansion volume

03165. If your ship burns 8 tons of fuel per hour at 15 knots, how many tons per hour will it burn at 19 knots?

A. 10.1 tons
B. 12.8 tons
C. 16.3 tons
D. 10.5tons

03166. If you have a duplex double acting reciprocating pump making 170 strokes/minute, with a 3" diameter cylinder, a 10" stroke and operating with 77% volumetric efficiency, what is the capacity of this pump?

A. 40 gpm
B. 80 gpm
C. 134 gpm
D. 20 gpm

03168. If you have a duplex single acting reciprocating pump making 170 strokes/minute, with a 5" diameter cylinder, a 4" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 49 gpm
B. 39 gpm
C. 25 gpm
D. 98 gpm

03169. If you have a duplex double acting reciprocating pump making 180 strokes/minute, with a 6" diameter cylinder, a 11" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 206 gpm
B. 378 gpm
C. 103 gpm
D. 412 gpm

03171. If you have a duplex double acting reciprocating pump making 150 strokes/minute, with a 3" diameter cylinder, a 5" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 21 gpm
B. 35 gpm
C. 11 gpm
D. 42 gpm

03173. The proper valve alignment for circulating mud in the starboard forward tank in the illustration, is for valves _____.
(See illustration GS-0162)

A. "E", "F", "J" and "K" open, and all other valves closed
B. "E", "R", "J", "K" and "S" open and a weighted hose connecting "R" and "S"
C. "E", "F", "B" and "D" open and all other valves closed
D. "E", "F", "A", "B" and "D" open, all other valves closed

03176. If you have a duplex double acting reciprocating pump making 190 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 80% volumetric efficiency, what is the capacity of this pump?

A. 260 gpm
B. 608 gpm
C. 521 gpm
D. 130 gpm

03177. Your ship has steamed 1856 miles at 18 knots using 545 tons of fuel oil. The distance remaining to your next port is 1978 miles. If you increase speed to 22 knots, how much fuel will be used to reach that port?

A. 1060 tons
B. 690 tons
C. 710 tons
D. 868 tons

03178. If you have a duplex double acting reciprocating pump making 160 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 52 gpm
B. 91 gpm
C. 104 gpm
D. 26 gpm

03185. If you have a duplex double acting reciprocating pump making 150 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 104 gpm
B. 52 gpm
C. 91 gpm
D. 26 gpm

03187. If your ship burns 8 tons of fuel per hour at 15 knots, how many tons per hour will it burn at 20 knots?

A. 19.0 tons
B. 10.7 tons
C. 14.2 tons
D. 11.7 tons

03188. If you have a duplex double acting reciprocating pump making 220 strokes/minute, with a 3" diameter cylinder, a 5" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 29 gpm
B. 49 gpm
C. 15 gpm
D. 59 gpm

03192. Your ship has steamed 1940 miles at 21 knots using 635 tons of fuel oil. The distance remaining to your next port is 1833 miles. If you increase speed to 25 knots, how much fuel will be used to reach that port?

A. 1012 tons
B. 850 tons
C. 455 tons
D. 714 tons

03195. If you have a duplex single acting reciprocating pump making 180 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 50 gpm
B. 75 gpm
C. 37 gpm
D. 150 gpm

03196. If you have a duplex double acting reciprocating pump making 180 strokes/minute, with a 5" diameter cylinder, a 6" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 80 gpm
B. 160 gpm
C. 96 gpm
D. 40 gpm

03197. In the illustration, line "B" is a/an _____.
(See illustration GS-0006)

A. hidden line
B. sectioning line
C. outline
D. phantom line

03198. If you have a duplex double acting reciprocating pump making 190 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 109 gpm
B. 54 gpm
C. 95 gpm
D. 27 gpm

03199. If you have a duplex single acting reciprocating pump making 180 strokes/minute, with a 4" diameter cylinder, a 6" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 81 gpm
B. 27 gpm
C. 54 gpm
D. 108 gpm

03201. The illustrated shaft has an overall length of 42 inches. If the diameter of "E" = 2.5" and "F" = 6", with an indicated radius of "R" = .125" and the length of "X" = 8"; then the TPF (taper per foot) is _____. (See illustration GS-0133)

A. 0.125 TPF
B. 1.250 TPF
C. 1.500 TPF
D. 1.875 TPF

03202. If you have a duplex single acting reciprocating pump making 190 strokes/minute, with a 3" diameter cylinder, a 9" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 141 gpm
B. 24 gpm
C. 94 gpm
D. 47 gpm

03203. The base radius of the gear illustrated is represented by _____. (See illustration GS-0111)

A. D
B. E
C. L
D. P

03205. The letter "B" shown in the illustration represents _____.((See illustration GS-0033)

A. the minor diameter of threads to be machined
B. a blind hole
C. a continuous square hole
D. only hidden lines

03207. If you have a duplex double acting reciprocating pump making 180 strokes/minute, with a 4" diameter cylinder, a 5" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 47 gpm
B. 94 gpm
C. 59 gpm
D. 24 gpm

03208. If your ship burns 8 tons of fuel per hour at 15 knots, how many tons per hour will it burn at 21 knots?

A. 11.2 tons
B. 22.0 tons
C. 15.7 tons
D. 12.9 tons

03210. If you have a duplex double acting reciprocating pump making 140 strokes/minute, with a 5" diameter cylinder, a 6" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 64 gpm
B. 129 gpm
C. 77 gpm
D. 32 gpm

03211. The proper valve alignment for discharging liquid mud from the starboard forward tank, in the illustrated system, is for valves _____. (See illustration GS-0162)

A. "E", "F", "J", "K" and "S" open, and all other valves closed
B. "E", "R", "J", "K" and "S" open with the discharge hose connected to "S"
C. "A", "B" and "D" open to pressure the tank with the discharge valve "R" open and the discharge hose connected to "R", and all other valves closed
D. "B", "D", "E" and "S" open with the discharge hose connected at "S", and all other valves closed

03213. If you have a duplex double acting reciprocating pump making 110 strokes/minute, with a 5" diameter cylinder, a 10" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 94 gpm
B. 206 gpm
C. 47 gpm
D. 187 gpm

03216. If you have a duplex single acting reciprocating pump making 190 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 80% volumetric efficiency, what is the capacity of this pump?

A. 608 gpm
B. 260 gpm
C. 130 gpm
D. 521 gpm

03218. If you have a duplex double acting reciprocating pump making 180 strokes/minute, with a 3" diameter cylinder, a 4" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 21 gpm
B. 28 gpm
C. 43 gpm
D. 11 gpm

03219. Your ship has steamed 1651 miles at 20 knots using 580 tons of fuel oil. The distance remaining to your next port is 1790 miles. If you increase speed to 20 knots, how much fuel will be used to reach that port?

A. 327 tons
B. 1422 tons
C. 384 tons
D. 452 tons

03220. If you have a duplex single acting reciprocating pump making 180 strokes/minute, with a 4" diameter cylinder, a 13" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 108 gpm
B. 352 gpm
C. 54 gpm
D. 216 gpm

03222. If you have a duplex double acting reciprocating pump making 130 strokes/minute, with a 3" diameter cylinder, a 5" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 18 gpm
B. 30 gpm
C. 36 gpm
D. 9 gpm

03225. If you have a duplex double acting reciprocating pump making 250 strokes/minute, with a 5" diameter cylinder, a 6" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 114 gpm
B. 57 gpm
C. 86 gpm
D. 29 gpm

03226. If you have a simplex single acting reciprocating pump making 170 strokes/minute, with a 5" diameter cylinder, a 13" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 327 gpm
B. 163 gpm
C. 82 gpm
D. 425 gpm

03229. If you have a duplex double acting reciprocating pump making 130 strokes/minute, with a 6" diameter cylinder, a 7" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 104 gpm
B. 121 gpm
C. 52 gpm
D. 207 gpm

03230. If your ship burns 8 tons of fuel per hour at 15 knots, how many tons per hour will it burn at 22 knots?

A. 11.7 tons
B. 17.2 tons
C. 14.2 tons
D. 25.2 tons

03233. If you have a duplex single acting reciprocating pump making 170 strokes/minute, with a 4" diameter cylinder, a 11" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 249 gpm
B. 91 gpm
C. 45 gpm
D. 181 gpm

03235. If a block and tackle arrangement were rigged as shown in figure "F" in the illustration, the amount of force "P" required to hold the 262 pound load stationary would be _____.
(See illustration GS-0110)

A. 52 lbs
B. 59 lbs
C. 66 lbs
D. 87 lbs

03236. If you have a duplex double acting reciprocating pump making 150 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 85 gpm
B. 119 gpm
C. 42 gpm
D. 170 gpm

03237. If you have a duplex double acting reciprocating pump making 170 strokes/minute, with a 5" diameter cylinder, a 4" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 49 gpm
B. 98 gpm
C. 39 gpm
D. 25 gpm

03238. If you have a simplex single acting reciprocating pump making 180 strokes/minute, with a 3" diameter cylinder, a 11" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 91 gpm
B. 45 gpm
C. 167 gpm
D. 23 gpm

03241. If you have a duplex double acting reciprocating pump making 150 strokes/minute, with a 6" diameter cylinder, a 4" stroke with 95% volumetric efficiency, what is the capacity of this pump?

A. 174 gpm
B. 87 gpm
C. 73 gpm
D. 44 gpm

03242. Your ship has steamed 1945 miles at 21 knots using 635 tons of fuel oil. The distance remaining to your next port is 1750 miles. If you decrease speed to 16 knots, how much fuel will be used to reach that port?

A. 332 tons
B. 253 tons
C. 1662 tons
D. 435 tons

03243. If you have a simplex single acting reciprocating pump making 170 strokes/minute, with a 8" diameter cylinder, a 13" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 856 gpm
B. 428 gpm
C. 214 gpm
D. 695 gpm

03246. If you have a duplex double acting reciprocating pump making 170 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 202 gpm
B. 101 gpm
C. 84 gpm
D. 50 gpm

03247. The chordal addendum of the illustrated gear is represented by _____. (See illustration GS-0111)

A. A
B. C
C. D
D. L

03248. If you have a duplex double acting reciprocating pump making 110 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 79% volumetric efficiency, what is the capacity of this pump?

A. 72 gpm
B. 26 gpm
C. 52 gpm
D. 103 gpm

03252. If you have a duplex double acting reciprocating pump making 160 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 94 gpm
B. 188 gpm
C. 78 gpm
D. 47 gpm

03253. If you have a simplex single acting reciprocating pump making 180 strokes/minute, with a 6" diameter cylinder, a 11" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 412 gpm
B. 206 gpm
C. 378 gpm
D. 103 gpm

03255. If your ship burns 5 tons of fuel per hour at 23 knots, how many tons per hour will it burn at 18 knots?

A. 3.9 tons
B. 2.4 tons
C. 3.1 tons
D. 3.3 tons

03256. If you have a duplex double acting reciprocating pump making 180 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 98% volumetric efficiency, what is the capacity of this pump?

A. 108 gpm
B. 216 gpm
C. 90 gpm
D. 54 gpm

03257. In the illustration, line "D" is a/an _____.
(See illustration GS-0006)

A. hidden line
B. sectioning line
C. outline
D. phantom line

03258. If you have a simplex single acting reciprocating pump making 270 strokes/minute, with a 3" diameter cylinder, a 5" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 15 gpm
B. 62 gpm
C. 31 gpm
D. 52 gpm

03261. The components labeled "T" in the illustration are arranged to _____. (See illustration GS-0162)

A. take suction from all areas of the tank
B. never point at the bottom of the tank
C. prevent barite that settles to the bottom of the tank from re-entering the system and preserving the weight of the mud
D. introduce inert gas to all areas of the tank to prevent vapors from exceeding the lower explosive level

03266. If you have a duplex double acting reciprocating pump making 140 strokes/minute, with a 5" diameter cylinder, a 6" stroke and operating with 79% volumetric efficiency, what is the capacity of this pump?

A. 59 gpm
B. 71 gpm
C. 30 gpm
D. 119 gpm

03267. If you have a duplex double acting reciprocating pump making 130 strokes/minute, with a 6" diameter cylinder, a 4" stroke with 93% volumetric efficiency, what is the capacity of this pump?

A. 59 gpm
B. 39 gpm
C. 118 gpm
D. 30 gpm

03268. If you have a duplex double acting reciprocating pump making 170 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 98 gpm
B. 196 gpm
C. 137 gpm
D. 49 gpm

03269. Your ship has steamed 2014 miles at 22 knots using 680 tons of fuel oil. The distance remaining to your next port is 1766 miles. If you decrease speed to 18 knots, how much fuel will be used to reach that port?

A. 327 tons
B. 1220 tons
C. 399 tons
D. 488 tons

03270. If you have a duplex double acting reciprocating pump making 140 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 64 gpm
B. 43 gpm
C. 129 gpm
D. 32 gpm

03275. If you have a duplex double acting reciprocating pump making 140 strokes/minute, with a 4" diameter cylinder, a 5" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 72 gpm
B. 36 gpm
C. 45 gpm
D. 18 gpm

03278. If you have a duplex double acting reciprocating pump making 140 strokes/minute, with a 4" diameter cylinder, a 8" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 57 gpm
B. 115 gpm
C. 29 gpm
D. 115 gpm

03279. If your ship burns 6 tons of fuel per hour at 22 knots, how many tons per hour will it burn at 17 knots?

A. 4.6 tons
B. 3.9 tons
C. 1.7 tons
D. 2.8 tons

03282. If you have a duplex double acting reciprocating pump making 160 strokes/minute, with a 7" diameter cylinder, a 8" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 207 gpm
B. 236 gpm
C. 103 gpm
D. 414 gpm

03286. If you have a simplex single acting reciprocating pump making 180 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 98% volumetric efficiency, what is the capacity of this pump?

A. 210 gpm
B. 105 gpm
C. 52 gpm
D. 147 gpm

03287. If you have a duplex double acting reciprocating pump making 120 strokes/minute, with a 3" diameter cylinder, a 4" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 14 gpm
B. 28 gpm
C. 19 gpm
D. 7 gpm

03289. If you have a duplex double acting reciprocating pump making 130 strokes/minute, with a 4" diameter cylinder, a 9" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 118 gpm
B. 59 gpm
C. 133 gpm
D. 30 gpm

03290. The tooth profile of the illustrated gear is represented by _____. (See illustration GS-0111)

A. F
B. H
C. I
D. J

03291. Your ship has steamed 2061 miles at 24 knots using 850 tons of fuel oil. The distance remaining to your next port is 1645 miles. If you decrease speed to 19 knots, how much fuel will be used to reach that port?

A. 425 tons
B. 337 tons
C. 989 tons
D. 537 tons

03292. If you have a duplex double acting reciprocating pump making 180 strokes/minute, with a 4" diameter cylinder, a 9" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 157 gpm
B. 78 gpm
C. 176 gpm
D. 39 gpm

03293. Figure "I" shown in the illustration is a diagram of a valve handwheel, with S=8 and T=50 lbs. When an 24 inch cheater bar is used instead, and V=50 lbs., as shown in Figure "II", how much does the torque on the valve stem increase with the use of the cheater bar? (See illustration GS-0109)

A. 108%
B. 3700%
C. 300%
D. 400%

03296. If you have a simplex single acting reciprocating pump making 170 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 161 gpm
B. 81 gpm
C. 54 gpm
D. 40 gpm

03298. The branch circuits labeled "T" in the illustration are designed to _____. (See illustration GS-0162)

A. equalize mud flow through all of the nozzles
B. flush all parts of the tank with seawater during washdown
C. comply with oil pollution prevention regulations
D. take suction 12" to 14" above the bottom of the tank

03300. Which of the following statements is correct if the length between perpendiculars is 500 feet, and the through hull opening is five feet above the summer loadline for the generator auxiliary circulating system? (See illustration GS-0125)

A. The inboard valve must be positive closing, in addition to being of the automatic non-return valve type.
B. The outboard valve must be positive closing, in addition to being of the automatic non-return valve type.
C. Only one shutoff valve is required.
D. Two valves are required, and each must be of the automatic non-return type.

03301. If your ship burns 4 tons of fuel per hour at 21 knots, how many tons per hour will it burn at 16 knots?

A. 3.0 tons
B. 1.8 tons
C. 2.3 tons
D. 5.3 tons

03305. If you have a duplex double acting reciprocating pump making 130 strokes/minute, with a 5" diameter cylinder, a 11" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 113 gpm
B. 226 gpm
C. 249 gpm
D. 57 gpm

03306. If you have a duplex double acting reciprocating pump making 150 strokes/minute, with a 3" diameter cylinder, a 11" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 48 gpm
B. 96 gpm
C. 176 gpm
D. 24 gpm

03308. If you have a duplex single acting reciprocating pump making 270 strokes/minute, with a 3" diameter cylinder, a 5" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 31 gpm
B. 52 gpm
C. 15 gpm
D. 62 gpm

03309. If you have a duplex double acting reciprocating pump making 110 strokes/minute, with a 6" diameter cylinder, a 7" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 86 gpm
B. 100 gpm
C. 172 gpm
D. 43 gpm

03311. Your ship has steamed 1951 miles at 20 knots using 580 tons of fuel oil. The distance remaining to your next port is 1861 miles. If you increase speed to 24 knots, how much fuel will be used to reach that port?

A. 956 tons
B. 525 tons
C. 797 tons
D. 664 tons

03313. Which of the figures illustrated would not be suitable for use as a set screw? (See illustration GS-0080)

A. figure A
B. figure F
C. figure G
D. figure L

03316. If you have a duplex double acting reciprocating pump making 140 strokes/minute, with a 3" diameter cylinder, a 12" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 48 gpm
B. 193 gpm
C. 97 gpm
D. 24 gpm

03317. The device shown in the illustration is a/an _____. (See illustration GS-0116)

A. diesel engine motor mount
B. vane type steering gear
C. oil scraper ring stuffing box for a crosshead engine
D. mechanical shaft seal

03320. The valve labeled "A" in the illustrated system should be opened to _____. (See illustration GS-0162)

A. provide cooling for the diesel driven pump
B. clean tanks once they are empty
C. thin the mud because the weight is excessive
D. fill tanks to improve stability by reducing free surface effect

03322. If you have a duplex single acting reciprocating pump making 170 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 137 gpm
B. 98 gpm
C. 49 gpm
D. 196 gpm

03323. If you have a duplex double acting reciprocating pump making 120 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 68 gpm
B. 56 gpm
C. 34 gpm
D. 135 gpm

03326. If your ship burns 2.9 tons of fuel per hour at 20 knots, how many tons per hour will it burn at 15 knots?

A. 2.2 tons
B. 1.6 tons
C. 6.2 tons
D. 1.2 tons

03327. If you have a duplex double acting reciprocating pump making 180 strokes/minute, with a 6" diameter cylinder, a 10" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 187 gpm
B. 312 gpm
C. 97 gpm
D. 312 gpm

03332. If you have a duplex double acting reciprocating pump making 150 strokes/minute, with a 7" diameter cylinder, a 9" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 214 gpm
B. 275 gpm
C. 107 gpm
D. 427 gpm

03333. If your ship burns 3 tons of fuel per hour at 19 knots, how many tons per hour will it burn at 15 knots?

A. 1.5 tons
B. 2.4 tons
C. 1.9 tons
D. 5.3 tons

03336. If you have a duplex double acting reciprocating pump making 170 strokes/minute, with a 5" diameter cylinder, a 13" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 163 gpm
B. 425 gpm
C. 327 gpm
D. 82 gpm

03337. If you have a duplex double acting reciprocating pump making 120 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 135 gpm
B. 68 gpm
C. 56 gpm
D. 34 gpm

03338. If you have a simplex double acting reciprocating pump making 140 strokes/minute, with a 5" diameter cylinder, a 11" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 10 gpm
B. 39 gpm
C. 20 gpm
D. 108 gpm

03339. Which of the figures illustrated is not suitable for use as a hexhead set screw? (See illustration GS-0080)

A. figure C
B. figure D
C. figure G
D. figure L

03341. Item "J" in the pump illustration _____.
(See illustration GS-0129)

A. should be replaced by a grease fitting for semi-annual lubrication
B. will need to be piped to a fitting installed in place of the plug (in area "C") when the pump is used for hot water circulation
C. will need to be piped to a fitting installed in place of the plug (in area "C") when the the pump is used for cool potable water
D. is provided to vent the pump of collected non-condensable gases

03342. If you have a simplex single acting reciprocating pump making 150 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 35 gpm
B. 140 gpm
C. 70 gpm
D. 47 gpm

03343. The operation of the device shown in the illustration is dependent upon _____. (See illustration GS-0116)

A. all items, similar to "I" move as the rudder stock rotates
B. all items, similar to "N" move as the rudder stock rotates
C. both "I" and "N" move as the rudder stock rotates
D. neither "I" nor "N" move as the rudder stock rotates

03348. If you have a duplex single acting reciprocating pump making 170 strokes/minute, with a 7" diameter cylinder, a 11" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 426 gpm
B. 271 gpm
C. 136 gpm
D. 542 gpm

03349. If you have a simplex double acting reciprocating pump making 140 strokes/minute, with a 6" diameter cylinder, a 10" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 322 gpm
B. 81 gpm
C. 161 gpm
D. 268 gpm

03350. If you have a simplex double acting reciprocating pump making 110 strokes/minute, with a 3" diameter cylinder, a 5" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 33 gpm
B. 16 gpm
C. 8 gpm
D. 27 gpm

03353. If you have a duplex double acting reciprocating pump making 110 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 49 gpm
B. 98 gpm
C. 33 gpm
D. 25 gpm

03355. If a block and tackle arrangement were rigged as shown in figure "F" in the illustration, the amount of force "P" required to hold the 398 pound load stationary would be _____.
(See illustration GS-0110)

A. 95 lbs
B. 100 lbs
C. 133 lbs
D. 159 lbs

03356. If you have a duplex single acting reciprocating pump making 160 strokes/minute, with a 4" diameter cylinder, a 12" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 266 gpm
B. 89 gpm
C. 44 gpm
D. 178 gpm

03358. If you have a duplex single acting reciprocating pump making 170 strokes/minute, with a 8" diameter cylinder, a 13" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 695 gpm
B. 214 gpm
C. 428 gpm
D. 856 gpm

03360. The valve labeled "A" in the illustrated system should be opened to_____. (See illustration GS-0162)

A. clean tanks once they are empty
B. thin the mud to reduce its weight
C. provide cooling for the diesel driven pump
D. all the above

03361. If you have a simplex double acting reciprocating pump making 110 strokes/minute, with a 5" diameter cylinder, a 4" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 71 gpm
B. 36 gpm
C. 28 gpm
D. 18 gpm

03363. Which of the figures illustrated is known as an Allen head set screw?
(See illustration GS-0080)

A. figure B
B. figure C
C. figure F
D. figure G

03375. If you have a duplex double acting reciprocating pump making 110 strokes/minute, with a 7" diameter cylinder, a 8" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 133 gpm
B. 152 gpm
C. 267 gpm
D. 67 gpm

03376. If you have a simplex single acting reciprocating pump making 140 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 39 gpm
B. 157 gpm
C. 78 gpm
D. 110 gpm

03378. If you have a duplex single acting reciprocating pump making 150 strokes/minute, with a 5" diameter cylinder, a 11" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 262 gpm
B. 60 gpm
C. 119 gpm
D. 238 gpm

03382. If you have a simplex single acting reciprocating pump making 180 strokes/minute, with a 4" diameter cylinder, a 13" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 216 gpm
B. 108 gpm
C. 352 gpm
D. 54 gpm

03385. If a block and tackle arrangement were rigged as shown in figure "F" in the illustration, the amount of force "P" required to hold the 398 pound load stationary would be _____.
(See illustration GS-0110)

A. 97 lbs
B. 102 lbs
C. 111 lbs
D. 147 lbs

03387. If you have a simplex single acting reciprocating pump making 150 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 174 gpm
B. 44 gpm
C. 87 gpm
D. 73 gpm

03389. If you have a duplex double acting reciprocating pump making 180 strokes/minute, with a 3" diameter cylinder, a 11" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 91 gpm
B. 45 gpm
C. 167 gpm
D. 23 gpm

03390. The component labeled "B" in the illustration is the _____.
(See illustration GS-0163)

A. suction line
B. vent
C. fill line
D. fresh water sprinkler for fluidizing of pulverized material

03391. The illustration is drawn to a scale of 1/16 inch = 1 inch. What is the full size dimension of "X", if the scale lengths for "E" = 5/8", "F" = 1 3/8", "G" = 2 1/8", and "H" = 5 3/4"? (See illustration GS-0007)

A. 1.625 inches
B. 0.359 inches
C. 26.00 inches
D. 92.00 inches

03392. If you have a duplex double acting reciprocating pump making 110 strokes/minute, with a 6" diameter cylinder, a 9" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 150 gpm
B. 193 gpm
C. 75 gpm
D. 300 gpm

03396. If you have a simplex single acting reciprocating pump making 190 strokes/minute, with a 3" diameter cylinder, a 11" stroke and operating with 77% volumetric efficiency, what is the capacity of this pump?

A. 25 gpm
B. 98 gpm
C. 49 gpm
D. 181 gpm

03398. If you have a simplex single acting reciprocating pump making 140 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 129 gpm
B. 64 gpm
C. 32 gpm
D. 43 gpm

03402. If you have a duplex single acting reciprocating pump making 160 strokes/minute, with a 4" diameter cylinder, a 10" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 163 gpm
B. 33 gpm
C. 131 gpm
D. 65 gpm

03405. If you have a duplex double acting reciprocating pump making 110 strokes/minute, with a 8" diameter cylinder, a 11" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 479 gpm
B. 240 gpm
C. 329 gpm
D. 120 gpm

03406. If you have a simplex single acting reciprocating pump making 330 strokes/minute, with a 3" diameter cylinder, a 4" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 78 gpm
B. 39 gpm
C. 52 gpm
D. 19 gpm

03407. If you have a simplex single acting reciprocating pump making 160 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 47 gpm
B. 188 gpm
C. 94 gpm
D. 78 gpm

03409. If you have a simplex single acting reciprocating pump making 160 strokes/minute, with a7" diameter cylinder, a 8" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 414 gpm
B. 207 gpm
C. 236 gpm
D. 103 gpm

03411. If you have a duplex single acting reciprocating pump making 170 strokes/minute, with a 3" diameter cylinder, a 5" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 12 gpm
B. 48 gpm
C. 24 gpm
D. 40 gpm

03412. If you have a simplex single acting reciprocating pump making 120 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 83% volumetric efficiency, what is the capacity of this pump?

A. 19 gpm
B. 76 gpm
C. 38 gpm
D. 66 gpm

03413. The illustration is drawn to a scale of 1/8 inch = 1 inch. What is the full size dimension of "X", if the scale lengths for "E" = 5/8", "F" = 1 3/8", "G" = 2 1/8", and "H" = 5 3/4"? (See illustration GS-0007)

A. 1.625 inches
B. 0.719 inches
C. 46.00 inches
D. 13.00 inches

03415. If a block and tackle arrangement were rigged as shown in figure "F" in the illustration, the amount of force "P" required to hold the 468 pound load stationary would be _____.
(See illustration GS-0110)

A. 103 lbs
B. 109 lbs
C. 113 lbs
D. 117 lbs

03416. If you have a duplex double acting reciprocating pump making 180 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 98% volumetric efficiency, what is the capacity of this pump?

A. 105 gpm
B. 210 gpm
C. 147 gpm
D. 52 gpm

03417. The component labeled "F" in the illustration is a _____. (See illustration GS-0163)

A. differential valve
B. fill connection
C. pneumercator
D. support stanchion

03418. If you have a duplex double acting reciprocating pump making 120 strokes/minute, with a 5" diameter cylinder, a 12" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 113 gpm
B. 225 gpm
C. 270 gpm
D. 56 gpm

03420. If you have a simplex single acting reciprocating pump making 140 strokes/minute, with a 3" diameter cylinder, a 9" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 18 gpm
B. 72 gpm
C. 36 gpm
D. 109 gpm

03422. If you have a simplex single acting reciprocating pump making 220 strokes/minute, with a 3" diameter cylinder, a 5" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 59 gpm
B. 15 gpm
C. 29 gpm
D. 49 gpm

03425. The rudder shown in the illustration is correctly termed a/an _____. (See illustration GS-0131)

A. balanced rudder
B. unbalanced rudder
C. semi-balanced rudder
D. contra-guided rudder

03426. If you have a simplex single acting reciprocating pump making 190 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 170 gpm
B. 85 gpm
C. 42 gpm
D. 119 gpm

03429. If you have a simplex single acting reciprocating pump making 130 strokes/minute, with a 5" diameter cylinder, a 4" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 21 gpm
B. 85 gpm
C. 42 gpm
D. 34 gpm

03431. If you have a simplex single acting reciprocating pump making 140 strokes/minute, with a 4" diameter cylinder, a 11" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 157 gpm
B. 39 gpm
C. 79 gpm
D. 217 gpm

03433. If you have a duplex single acting reciprocating pump making 140 strokes/minute, with a 5" diameter cylinder, a 6" stroke and operating with 83% volumetric efficiency, what is the capacity of this pump?

A. 71 gpm
B. 30 gpm
C. 59 gpm
D. 119 gpm

03435. The illustration is drawn to a scale of 1/4 inch = 1 inch. What is the full size dimension of "X", if the scale lengths for "E" = 5/8", "F" = 1 3/8", "G" = 2 1/8", and "H" = 5 3/4"? (See illustration GS-0007)

A. 2.167 inches
B. 6.500 inches
C. 1.625 inches
D. 7.667 inches

03436. If you have a simplex single acting reciprocating pump making 190 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 109 gpm
B. 54 gpm
C. 27 gpm
D. 95 gpm

03438. If you have a simplex single acting reciprocating pump making 180 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 37 gpm
B. 150 gpm
C. 75 gpm
D. 50 gpm

03439. The purpose of the component labeled "F" in the illustration is to_____. (See illustration GS-0163)

A. determine the level of remaining pulverized material
B. prevent damage to the slope sheets
C. bleed excess air from the top of the tank
D. maintain a minimum of 15 psia difference between the aeration unit and the top head

03442. If you have a simplex single acting reciprocating pump making 150 strokes/minute, with a 7" diameter cylinder, a 12" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 570 gpm
B. 285 gpm
C. 142 gpm
D. 488 gpm

03446. If you have a duplex single acting reciprocating pump making 140 strokes/minute, with a 3" diameter cylinder, a 11" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 20 gpm
B. 108 gpm
C. 10 gpm
D. 39 gpm

03448. If you have a duplex single acting reciprocating pump making 180 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 98% volumetric efficiency, what is the capacity of this pump?

A. 147 gpm
B. 105 gpm
C. 52 gpm
D. 210 gpm

03449. If you have a simplex single acting reciprocating pump making 120 strokes/minute, with a 6" diameter cylinder, a 11" stroke and operating with 83% volumetric efficiency, what is the capacity of this pump?

A. 297 gpm
B. 149 gpm
C. 273 gpm
D. 74 gpm

03453. If you have a simplex single acting reciprocating pump making 140 strokes/minute, with a 3" diameter cylinder, a 13" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 105 gpm
B. 52 gpm
C. 227 gpm
D. 26 gpm

03455. If you have a duplex double acting reciprocating pump making 180 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 75 gpm
B. 150 gpm
C. 50 gpm
D. 37 gpm

03456. If you have a simplex single acting reciprocating pump making 140 strokes/minute, with a 5" diameter cylinder, a 6" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 32 gpm
B. 129 gpm
C. 64 gpm
D. 77 gpm

03458. If you have a duplex double acting reciprocating pump making 180 strokes/minute, with a 4" diameter cylinder, a 13" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 108 gpm
B. 352 gpm
C. 216 gpm
D. 54 gpm

03459. If you have a simplex single acting reciprocating pump making 150 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 42 gpm
B. 170 gpm
C. 85 gpm
D. 119 gpm

03462. If you have a simplex single acting reciprocating pump making 120 strokes/minute, with a 4" diameter cylinder, a 10" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 30 gpm
B. 120 gpm
C. 60 gpm
D. 150 gpm

03463. The illustration is drawn to a scale of 3/16 inch = 1 inch. What is the full size dimension of "X", if the scale lengths for "E" = 5/8", "F" = 1 3/8", "G" = 2 1/8", and "H" = 5 3/4"? (See illustration GS-0007)

A. 1.078 inches
B. 8.667 inches
C. 30.667 inches
D. 1.625 inches

03465. The component labeled "E" in the illustration is a _____. (See illustration GS-0163)

A. high level alarm/shutdown
B. equalization line with filter
C. differential safety line with a pressure regulating valve set for approximately 10.5 psig
D. fresh water inlet to fluidize the pulverized material

03466. If you have a simplex single acting reciprocating pump making 140 strokes/minute, with a 4" diameter cylinder, a 13" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 186 gpm
B. 47 gpm
C. 93 gpm
D. 302 gpm

03467. If you have a duplex double acting reciprocating pump making 250 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 79% volumetric efficiency, what is the capacity of this pump?

A. 75 gpm
B. 132 gpm
C. 150 gpm
D. 38 gpm

03468. If you have a duplex double acting reciprocating pump making 330 strokes/minute, with a 3" diameter cylinder, a 4" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 39 gpm
B. 52 gpm
C. 19 gpm
D. 78 gpm

03476. If you have a duplex single acting reciprocating pump making 180 strokes/minute, with a 6" diameter cylinder, a 11" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 206 gpm
B. 378 gpm
C. 103 gpm
D. 412 gpm

03477. If you have a simplex single acting reciprocating pump making 150 strokes/minute, with a 5" diameter cylinder, a 12" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 291 gpm
B. 145 gpm
C. 73 gpm
D. 349 gpm

03486. If you have a duplex single acting reciprocating pump making 180 strokes/minute, with a 5" diameter cylinder, a 13" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 388 gpm
B. 149 gpm
C. 75 gpm
D. 298 gpm

03487. If you have a simplex single acting reciprocating pump making 160 strokes/minute, with a 3" diameter cylinder, a 4" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 38 gpm
B. 19 gpm
C. 9 gpm
D. 25 gpm

03488. If you have a duplex single acting reciprocating pump making 140 strokes/minute, with a 4" diameter cylinder, a 11" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 217 gpm
B. 39 gpm
C. 157 gpm
D. 79 gpm

03489. If you have a simplex single acting reciprocating pump making 110 strokes/minute, with a 4" diameter cylinder, a 6" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 67 gpm
B. 33 gpm
C. 50 gpm
D. 17 gpm

03496. If you have a simplex single acting reciprocating pump making 190 strokes/minute, with a 3" diameter cylinder, a 13" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 113 gpm
B. 57 gpm
C. 28 gpm
D. 246 gpm

03499. If you have a duplex single acting reciprocating pump making 150 strokes/minute, with a 7" diameter cylinder, a 12" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 285 gpm
B. 488 gpm
C. 142 gpm
D. 570 gpm

03501. If you have a simplex single acting reciprocating pump making 120 strokes/minute, with a 6" diameter cylinder, a 7" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 189 gpm
B. 95 gpm
C. 110 gpm
D. 47 gpm

03502. The purpose of the component labeled "E" in the illustration is to _____. (See illustration GS-0163)

A. determine the level of pulverized material
B. relieve pressure if the compressed air flow rate exceeds 600 CFM
C. equalize the pressure between the top of the tank and the aeration device when discharging material
D. equalize pressure on either side of the slope sheet when filling tank

03503. If you have a duplex single acting reciprocating pump making 190 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 88% volumetric efficiency, what is the capacity of this pump?

A. 41 gpm
B. 164 gpm
C. 82 gpm
D. 55 gpm

03506. If you have a simplex single acting reciprocating pump making 190 strokes/minute, with a 5" diameter cylinder, a 10" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 281 gpm
B. 141 gpm
C. 281 gpm
D. 70 gpm

03507. If you have a simplex single acting reciprocating pump making 150 strokes/minute, with a 5" diameter cylinder, a 11" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 60 gpm
B. 238 gpm
C. 119 gpm
D. 262 gpm

03508. If you have a simplex single acting reciprocating pump making 160 strokes/minute, with a 4" diameter cylinder, a 11" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 167 gpm
B. 42 gpm
C. 83 gpm
D. 229 gpm

03509. If the gap between the top of "B" and the facing area of "E" were to be reduced to half of the proper setting, the trap illustrated would tend to _____.(See illustration GS-0002)

A. remain closed for a longer period of time
B. close slower than with the full gap
C. remain open for a longer period of time
D. open quicker than with full gap

03511. If you have a duplex single acting reciprocating pump making 140 strokes/minute, with a 3" diameter cylinder, a 13" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 227 gpm
B. 52 gpm
C. 26 gpm
D. 105 gpm

03513. If you have a duplex double acting reciprocating pump making 120 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 83% volumetric efficiency, what is the capacity of this pump?

A. 19 gpm
B. 76 gpm
C. 38 gpm
D. 66 gpm

03515. If you have a simplex single acting reciprocating pump making 120 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 34 gpm
B. 135 gpm
C. 68 gpm
D. 56 gpm

03516. If you have a simplex single acting reciprocating pump making 230 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 78% volumetric efficiency, what is the capacity of this pump?

A. 34 gpm
B. 137 gpm
C. 68 gpm
D. 120 gpm

03518. If you have a simplex single acting reciprocating pump making 180 strokes/minute, with a 6" diameter cylinder, a 10" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 375 gpm
B. 187 gpm
C. 94 gpm
D. 312 gpm

03520. If you have a duplex double acting reciprocating pump making 170 strokes/minute, with a 8" diameter cylinder, a 13" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 428 gpm
B. 856 gpm
C. 695 gpm
D. 214 gpm

03522. If you have a duplex single acting reciprocating pump making 140 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 526 gpm
B. 113 gpm
C. 226 gpm
D. 451 gpm

03523. What precaution should be taken when transporting oil based mud, with the system illustrated, as compared to water based mud? (See illustration GS-0162)

A. The recirulation nozzles "T" need to be changed over to oil based nozzles.
B. The seachest valve "A" should be closed to prevent the oil from entering the water.
C. A spill containment area must be provided under the tank vent.
D. The tank must be provided with a protective coating no less than 20 mil thick.

03526. If you have a duplex double acting reciprocating pump making 190 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 85 gpm
B. 170 gpm
C. 119 gpm
D. 42 gpm

03528. If you have a simplex single acting reciprocating pump making 180 strokes/minute, with a 4" diameter cylinder, a 9" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 157 gpm
B. 78 gpm
C. 176 gpm
D. 39 gpm

03531. If you have a simplex single acting reciprocating pump making 120 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 108 gpm
B. 27 gpm
C. 54 gpm
D. 36 gpm

03533. If you have a duplex single acting reciprocating pump making 140 strokes/minute, with a 4" diameter cylinder, a 13" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 302 gpm
B. 47 gpm
C. 186 gpm
D. 93 gpm

03536. If you have a simplex single acting reciprocating pump making 180 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 98% volumetric efficiency, what is the capacity of this pump?

A. 216 gpm
B. 108 gpm
C. 54 gpm
D. 90 gpm

03537. If you have a duplex double acting reciprocating pump making 190 strokes/minute, with a 5" diameter cylinder, a 11" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 160 gpm
B. 352 gpm
C. 320 gpm
D. 80 gpm

03538. If you have a simplex single acting reciprocating pump making 160 strokes/minute, with a 6" diameter cylinder, a 9" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 75 gpm
B. 300 gpm
C. 150 gpm
D. 225 gpm

03543. If you have a simplex single acting reciprocating pump making 140 strokes/minute, with a 4" diameter cylinder, a 8" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 115 gpm
B. 57 gpm
C. 29 gpm
D. 115 gpm

03546. If you have a duplex single acting reciprocating pump making 150 strokes/minute, with a 5" diameter cylinder, a 12" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 145 gpm
B. 349 gpm
C. 73 gpm
D. 291 gpm

03547. If you have a duplex single acting reciprocating pump making 190 strokes/minute, with a 3" diameter cylinder, a 13" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 246 gpm
B. 28 gpm
C. 113 gpm
D. 57 gpm

03548. If you have a simplex single acting reciprocating pump making 160 strokes/minute, with a 8" diameter cylinder, a 9" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 682 gpm
B. 341 gpm
C. 170 gpm
D. 469 gpm

03551. If you have a duplex single acting reciprocating pump making 140 strokes/minute, with a 5" diameter cylinder, a 6" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 32 gpm
B. 129 gpm
C. 64 gpm
D. 77 gpm

03552. If you have a simplex single acting reciprocating pump making 190 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 88% volumetric efficiency, what is the capacity of this pump?

A. 164 gpm
B. 82 gpm
C. 55 gpm
D. 41 gpm

03556. If you have a simplex single acting reciprocating pump making 170 strokes/minute, with a 5" diameter cylinder, a 9" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 226 gpm
B. 57 gpm
C. 113 gpm
D. 204 gpm

03557. If you have a duplex double acting reciprocating pump making 170 strokes/minute, with a 3" diameter cylinder, a 5" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 12 gpm
B. 48 gpm
C. 24 gpm
D. 40 gpm

03558. If you have a simplex single acting reciprocating pump making 120 strokes/minute, with a 5" diameter cylinder, a 9" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 169 gpm
B. 84 gpm
C. 152 gpm
D. 42 gpm

03560. The illustrated shaft has an overall length of 18 inches. If the diameter of "E" = 2.5" and "F" = 3.5", with an indicated radius of "R" = .125" and the length of the tapered section "X" is to be 8"; then the amount of tailstock offset should be _____? (See illustration GS-0133)

A. 0.111"
B. 0.506"
C. 0.625"
D. 1.125"

03561. If you have a duplex single acting reciprocating pump making 140 strokes/minute, with a 5" diameter cylinder, a 11" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 108 gpm
B. 20 gpm
C. 10 gpm
D. 39 gpm

03562. If you have a simplex single acting reciprocating pump making 170 strokes/minute, with a 5" diameter cylinder, a 12" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 295 gpm
B. 147 gpm
C. 354 gpm
D. 74 gpm

03567. If you have a duplex single acting reciprocating pump making 170 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 30 gpm
B. 119 gpm
C. 60 gpm
D. 104 gpm

03568. If you have a duplex single acting reciprocating pump making 140 strokes/minute, with a 6" diameter cylinder, a 10" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 268 gpm
B. 81 gpm
C. 161 gpm
D. 322 gpm

03569. If you have a duplex single acting reciprocating pump making 180 strokes/minute, with a 3" diameter cylinder, a 11" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 45 gpm
B. 167 gpm
C. 23 gpm
D. 91 gpm

03570. If you have a simplex single acting reciprocating pump making 120 strokes/minute, with a 6 diameter cylinder, a 11" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 74 gpm
B. 297 gpm
C. 149 gpm
D. 273 gpm

03572. If you have a duplex single acting reciprocating pump making 190 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 42 gpm
B. 170 gpm
C. 85 gpm
D. 119 gpm

03573. What precaution should be taken when transporting oil based mud, with the system illustrated, when compared to water based mud? (See illustration GS-0162)

A. The recirulation nozzles "T" need to be changed over to oil based nozzles.
B. All tank cleaning and disposal must be done at an approved disposal pit.
C. The seal cage line valve "C" must be shifted to fresh water to prevent damage to the pump seal.
D. The tank must be coated with a protective covering no less than 20 mil thick.

03576. If you have a simplex single acting reciprocating pump making 160 strokes/minute, with a 6" diameter cylinder, a 13" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 113 gpm
B. 453 gpm
C. 227 gpm
D. 491 gpm

03578. If you have a simplex single acting reciprocating pump making 100 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 82% volumetric efficiency, what is the capacity of this pump?

A. 62 gpm
B. 31 gpm
C. 55 gpm
D. 16 gpm

03581. If you have a simplex single acting reciprocating pump making 180 strokes/minute, with a 5" diameter cylinder, a 13" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 298 gpm
B. 75 gpm
C. 149 gpm
D. 388 gpm

03582. If you have a simplex single acting reciprocating pump making 130 strokes/minute, with a 4 diameter cylinder, a 12" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 158 gpm
B. 39 gpm
C. 79 gpm
D. 237 gpm

03586. If you have a simplex single acting reciprocating pump making 160 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 526 gpm
B. 132 gpm
C. 263 gpm
D. 614 gpm

03588. If you have a simplex single acting reciprocating pump making 170 strokes/minute, with a 3" diameter cylinder, a 5" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 12 gpm
B. 48 gpm
C. 24 gpm
D. 40 gpm

03592. If you have a duplex double acting reciprocating pump making 190 strokes/minute, with a 3" diameter cylinder, a 13" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 57 gpm
B. 113 gpm
C. 246 gpm
D. 28 gpm

03593. If you have a simplex single acting reciprocating pump making 190 strokes/minute, with a 5" diameter cylinder, a 11" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 320 gpm
B. 160 gpm
C. 80 gpm
D. 352 gpm

03596. If you have a simplex single acting reciprocating pump making 160 strokes/minute, with a 7" diameter cylinder, a 13" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 603 gpm
B. 301 gpm
C. 151 gpm
D. 560 gpm

03597. If you have a simplex single acting reciprocating pump making 120 strokes/minute, with a 4 diameter cylinder, a 13" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 156 gpm
B. 339 gpm
C. 78 gpm
D. 254 gpm

03598. If you have a simplex single acting reciprocating pump making 170 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 119 gpm
B. 30 gpm
C. 60 gpm
D. 104 gpm

03602. If you have a simplex single acting reciprocating pump making 120 strokes/minute, with a 5" diameter cylinder, a 6" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 109 gpm
B. 54 gpm
C. 27 gpm
D. 65 gpm

03606. If you have a simplex single acting reciprocating pump making 170 strokes/minute, with a 3" diameter cylinder, a 12" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 109 gpm
B. 54 gpm
C. 217 gpm
D. 27 gpm

03609. If you have a simplex single acting reciprocating pump making 150 strokes/minute, with a 7" diameter cylinder, a 9" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 107 gpm
B. 427 gpm
C. 214 gpm
D. 275 gpm

03612. If you have a simplex single acting reciprocating pump making 120 strokes/minute, with a 6 diameter cylinder, a 14" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 378 gpm
B. 189 gpm
C. 441 gpm
D. 95 gpm

03613. If your vessel burns 8 tons of fuel per hour at 15 knots, how many tons per hour will it burn at 18 knots?

A. 9.6 tons
B. 13.8 tons
C. 9.5 tons
D. 11.5 tons

03616. If you have a duplex double acting reciprocating pump making 150 strokes/minute, with a 5" diameter cylinder, a 11" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 119 gpm
B. 262 gpm
C. 60 gpm
D. 238 gpm

03618. If you have a duplex double acting reciprocating pump making 180 strokes/minute, with a 5" diameter cylinder, a 8" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 106 gpm
B. 170 gpm
C. 213 gpm
D. 53 gpm

03621. If a block and tackle arrangement were rigged as shown in figure "F" in the illustration, the amount of force "P" required to hold the 508 pound load stationary would be _____.
(See illustration GS-0110)

A. 127 lbs
B. 145 lbs
C. 169 lbs
D. 203 lbs

03625. If you have a simplex single acting reciprocating pump making 120 strokes/minute, with a 8 diameter cylinder, a 13" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 156 gpm
B. 625 gpm
C. 312 gpm
D. 507 gpm

03626. If you have a duplex single acting reciprocating pump making 160 strokes/minute, with a 8" diameter cylinder, a 11" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 341 gpm
B. 469 gpm
C. 170 gpm
D. 682 gpm

03628. If you have a duplex single acting reciprocating pump making 190 strokes/minute, with a 5" diameter cylinder, a 11" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 352 gpm
B. 80 gpm
C. 320 gpm
D. 160 gpm

03636. If you have a duplex single acting reciprocating pump making 110 strokes/minute, with a 3" diameter cylinder, a 5" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 27 gpm
B. 16 gpm
C. 8 gpm
D. 33 gpm

03638. If you have a duplex single acting reciprocating pump making 180 strokes/minute, with a 4" diameter cylinder, a 12" stroke and operating with 80% volumetric efficiency, what is the capacity of this pump?

A. 282 gpm
B. 94 gpm
C. 47 gpm
D. 188 gpm

03639. If you have a simplex single acting reciprocating pump making 120 strokes/minute, with a 4 diameter cylinder, a 12" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 144 gpm
B. 36 gpm
C. 72 gpm
D. 216 gpm

03642. If you have a duplex single acting reciprocating pump making 190 strokes/minute, with a 4" diameter cylinder, a 13" stroke and operating with 77% volumetric efficiency, what is the capacity of this pump?

A. 103 gpm
B. 336 gpm
C. 52 gpm
D. 207 gpm

03646. If you have a duplex single acting reciprocating pump making 160 strokes/minute, with a 6" diameter cylinder, a 13" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 491 gpm
B. 113 gpm
C. 227 gpm
D. 453 gpm

03648. If you have a duplex single acting reciprocating pump making 110 strokes/minute, with a 5" diameter cylinder, a 4" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 28 gpm
B. 18 gpm
C. 36 gpm
D. 71 gpm

03652. If you have a duplex single acting reciprocating pump making 120 strokes/minute, with a 6 diameter cylinder, a 11" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 273 gpm
B. 74 gpm
C. 149 gpm
D. 297 gpm

03656. If you have a duplex single acting reciprocating pump making 140 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 110 gpm
B. 39 gpm
C. 157 gpm
D. 78 gpm

03658. If you have a duplex single acting reciprocating pump making 160 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 614 gpm
B. 132 gpm
C. 526 gpm
D. 263 gpm

03662. If you have a duplex single acting reciprocating pump making 130 strokes/minute, with a 4 diameter cylinder, a 12" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 237 gpm
B. 39 gpm
C. 158 gpm
D. 79 gpm

03666. If you have a duplex single acting reciprocating pump making 160 strokes/minute, with a 7" diameter cylinder, a 13" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 301 gpm
B. 560 gpm
C. 151 gpm
D. 603 gpm

03668. If you have a duplex single acting reciprocating pump making 160 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 94 gpm
B. 78 gpm
C. 47 gpm
D. 188 gpm

03672. If you have a duplex single acting reciprocating pump making 170 strokes/minute, with a 3" diameter cylinder, a 12" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 217 gpm
B. 54 gpm
C. 27 gpm
D. 109 gpm

03673. If you have a duplex single acting reciprocating pump making 120 strokes/minute, with a 4 diameter cylinder, a 13" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 78 gpm
B. 254 gpm
C. 39 gpm
D. 156 gpm

03678. If you have a duplex single acting reciprocating pump making 140 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 43 gpm
B. 64 gpm
C. 32 gpm
D. 129 gpm

03682. If you have a simplex single acting reciprocating pump making 170 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 519 gpm
B. 130 gpm
C. 259 gpm
D. 605 gpm

03685. If you have a duplex single acting reciprocating pump making 120 strokes/minute, with a 6 diameter cylinder, a 14" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 441 gpm
B. 189 gpm
C. 95 gpm
D. 378 gpm

03686. If you have a duplex single acting reciprocating pump making 160 strokes/minute, with a 4" diameter cylinder, a 11" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 229 gpm
B. 42 gpm
C. 83 gpm
D. 167 gpm

03688. If you have a duplex single acting reciprocating pump making 160 strokes/minute, with a 7" diameter cylinder, a 8" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 236 gpm
B. 103 gpm
C. 207 gpm
D. 141 gpm

03692. If you have a simplex single acting reciprocating pump making 140 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 91 gpm
B. 45 gpm
C. 79 gpm
D. 23 gpm

03698. If you have a duplex single acting reciprocating pump making 120 strokes/minute, with a 8 diameter cylinder, a 13" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 507 gpm
B. 156 gpm
C. 312 gpm
D. 625 gpm

03702. If you have a duplex single acting reciprocating pump making 140 strokes/minute, with a 3" diameter cylinder, a 9" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 109 gpm
B. 18 gpm
C. 72 gpm
D. 36 gpm

03706. If you have a simplex single acting reciprocating pump making 250 strokes/minute, with a 3" diameter cylinder, a 5" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 17 gpm
B. 68 gpm
C. 34 gpm
D. 57 gpm

03708. If you have a simplex single acting reciprocating pump making 190 strokes/minute, with a 3" diameter cylinder, a 9" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 94 gpm
B. 47 gpm
C. 24 gpm
D. 141 gpm

03711. If you have a duplex single acting reciprocating pump making 120 strokes/minute, with a 4 diameter cylinder, a 12" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 216 gpm
B. 36 gpm
C. 144 gpm
D. 72 gpm

03718. If you have a duplex double acting reciprocating pump making 140 strokes/minute, with a 3" diameter cylinder, a 13" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 105 gpm
B. 52 gpm
C. 227 gpm
D. 26 gpm

03720. If you have a simplex single acting reciprocating pump making 210 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 77% volumetric efficiency, what is the capacity of this pump?

A. 123 gpm
B. 31 gpm
C. 62 gpm
D. 108 gpm

03721. Figure "C" in the illustration, is an improperly installed hose, with the restriction developed at the _____. (See illustration GS-0063)

A. right hand fitting being small than required
B. center of the hose
C. sharp bend formed at the left
D. 90· bend as required of the installation

03722. If you have a simplex single acting reciprocating pump making 250 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 79% volumetric efficiency, what is the capacity of this pump?

A. 150 gpm
B. 75 gpm
C. 132 gpm
D. 38 gpm

03725. If you have a duplex single acting reciprocating pump making 120 strokes/minute, with a 6" diameter cylinder, a 11" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 149 gpm
B. 273 gpm
C. 149 gpm
D. 273 gpm

03726. If you have a duplex double acting reciprocating pump making 140 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 226 gpm
B. 451 gpm
C. 526 gpm
D. 113 gpm

03732. If you have a duplex double acting reciprocating pump making 140 strokes/minute, with a 4" diameter cylinder, a 13" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 93 gpm
B. 302 gpm
C. 186 gpm
D. 47 gpm

03736. If you have a duplex double acting reciprocating pump making 160 strokes/minute, with a 4" diameter cylinder, a 11" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 83 gpm
B. 229 gpm
C. 167 gpm
D. 42 gpm

03737. If you have a duplex single acting reciprocating pump making 120 strokes/minute, with a 4" diameter cylinder, a 10" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 150 gpm
B. 60 gpm
C. 30 gpm
D. 120 gpm

03738. If you have a duplex double acting reciprocating pump making 190 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 88% volumetric efficiency, what is the capacity of this pump?

A. 205 gpm
B. 102 gpm
C. 85 gpm
D. 51 gpm

03742. If you have a duplex double acting reciprocating pump making 270 strokes/minute, with a 3" diameter cylinder, a 5" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 31 gpm
B. 62 gpm
C. 52 gpm
D. 15 gpm

03746. If you have a duplex single acting reciprocating pump making 100 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 82% volumetric efficiency, what is the capacity of this pump?

A. 55 gpm
B. 16 gpm
C. 62 gpm
D. 31 gpm

03751. If you have a simplex single acting reciprocating pump making 250 strokes/minute, with a 4" diameter cylinder, a 6" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 114 gpm
B. 57 gpm
C. 29 gpm
D. 86 gpm

03752. If you have a simplex single acting reciprocating pump making 170 strokes/minute, with a 7" diameter cylinder, a 11" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 136 gpm
B. 542 gpm
C. 271 gpm
D. 426 gpm

03756. If you have a duplex double acting reciprocating pump making 160 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 183 gpm
B. 91 gpm
C. 128 gpm
D. 46 gpm

03758. If you have a duplex single acting reciprocating pump making 180 strokes/minute, with a 6" diameter cylinder, a 10" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 312 gpm
B. 94 gpm
C. 187 gpm
D. 375 gpm

03762. If you have a duplex single acting reciprocating pump making 190 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 88% volumetric efficiency, what is the capacity of this pump?

A. 85 gpm
B. 51 gpm
C. 205 gpm
D. 102 gpm

03766. If you have a duplex single acting reciprocating pump making 180 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 98% volumetric efficiency, what is the capacity of this pump?

A. 90 gpm
B. 108 gpm
C. 54 gpm
D. 216 gpm

03768. If you have a simplex single acting reciprocating pump making 170 strokes/minute, with a 5 diameter cylinder, a 4" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 101 gpm
B. 50 gpm
C. 40 gpm
D. 25 gpm

03770. If you have a simplex single acting reciprocating pump making 190 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 80% volumetric efficiency, what is the capacity of this pump?

A. 521 gpm
B. 260 gpm
C. 608 gpm
D. 130 gpm

03776. If you have a duplex single acting reciprocating pump making 160 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 50 gpm
B. 38 gpm
C. 75 gpm
D. 150 gpm

03778. If you have a duplex double acting reciprocating pump making 170 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 519 gpm
B. 259 gpm
C. 605 gpm
D. 130 gpm

03781. If you have a simplex single acting reciprocating pump making 130 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 22 gpm
B. 89 gpm
C. 45 gpm
D. 78 gpm

03786. If you have a duplex single acting reciprocating pump making 190 strokes/minute, with a 4" diameter cylinder, a 8" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 124 gpm
B. 31 gpm
C. 129 gpm
D. 62 gpm

03788. If you have a duplex double acting reciprocating pump making 190 strokes/minute, with a 4" diameter cylinder, a 8" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 62 gpm
B. 124 gpm
C. 170 gpm
D. 31 gpm

03790. If you have a duplex single acting reciprocating pump making 190 strokes/minute, with a 5" diameter cylinder, a 12" stroke and operation with 75% volumetric efficiency, what is the capacity of this pump?

A. 349 gpm
B. 73 gpm
C. 145 gpm
D. 291 gpm

03793. If you have a simplex single acting reciprocating pump making 160 strokes/minute, with a 5" diameter cylinder, a 6" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 139 gpm
B. 35 gpm
C. 69 gpm
D. 83 gpm

03796. If you have a duplex single acting reciprocating pump making 160 strokes/minute, with a 6" diameter cylinder, a 9" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 150 gpm
B. 225 gpm
C. 75 gpm
D. 300 gpm

03798. If you have a duplex single acting reciprocating pump making 190 strokes/minute, with a 3" diameter cylinder, a 12" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 251 gpm
B. 31 gpm
C. 63 gpm
D. 126 gpm

03802. If you have a duplex double acting reciprocating pump making 190 strokes/minute, with a 3" diameter cylinder, a 11" stroke and operating with 77% volumetric efficiency, what is the capacity of this pump?

A. 49 gpm
B. 181 gpm
C. 25 gpm
D. 98 gpm

03803. If "E" is moved closer to the top of "B" as shown in the illustration, the _____. (See illustration GS-0002)

A. efficiency of the heat exchanger operation will be increased
B. point of condensation will be moved closer to the steam inlet of the heat exchanger
C. point of condensation will be moved closer to the condensate outlet of the heat exchanger
D. steam pressure set point will automatically be increased

03806. If you have a duplex double acting reciprocating pump making 120 strokes/minute, with a 6" diameter cylinder, a 11" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 149 gpm
B. 273 gpm
C. 297 gpm
D. 74 gpm

03807. The devices labeled "C" in the illustration, are used as _____. (See illustration GS-0162)

A. pressure regulating valves to insure excessive pressure does not damage the manifold nozzles
B. mud by-pass valves that protects a pump that fails when both pumps are on line
C. pressure relief valves to protect the pump in the event of a clog in the discharge line
D. a sealing water supply to the pump lantern gland

03808. If you have a duplex double acting reciprocating pump making 160 strokes/minute, with a 7" diameter cylinder, a 13" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 301 gpm
B. 560 gpm
C. 603 gpm
D. 151 gpm

03809. If you have a simplex single acting reciprocating pump making 110 strokes/minute, with a 5" diameter cylinder, a 10" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 67 gpm
B. 135 gpm
C. 247 gpm
D. 270 gpm

03810. If you have a duplex single acting reciprocating pump making 170 strokes/minute, with a 5" diameter cylinder, a 13" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 425 gpm
B. 163 gpm
C. 82 gpm
D. 327 gpm

03812. If you have a duplex single acting reciprocating pump making 180 strokes/minute, with a 4" diameter cylinder, a 12" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 314 gpm
B. 52 gpm
C. 209 gpm
D. 105 gpm

03813. If you have a duplex double acting reciprocating pump making 190 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 88% volumetric efficiency, what is the capacity of this pump?

A. 164 gpm
B. 82 gpm
C. 55 gpm
D. 41 gpm

03816. If you have a duplex single acting reciprocating pump making 250 strokes/minute, with a 3" diameter cylinder, a 5" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 34 gpm
B. 57 gpm
C. 17 gpm
D. 68 gpm

03817. The part labeled "C" of the illustrated bearing is called the _____. (See illustration MO-0001)

A. thrust ring
B. outer race
C. inner race
D. cage

03819. If you have a duplex double acting reciprocating pump making 120 strokes/minute, with a 4" diameter cylinder, a 12" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 72 gpm
B. 216 gpm
C. 36 gpm
D. 144 gpm

03821. A micrometer scale reading is indicated as 0.453 inches and is represented in the illustration by _____. (See illustration GS-0013)

A. Figure A
B. Figure C
C. Figure G
D. Figure H

03822. If you have a simplex single acting reciprocating pump making 180 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 134 gpm
B. 537 gpm
C. 268 gpm
D. 626 gpm

03824. When a refrigeration compressor is in the "off" cycle, the thermal expansion valve will_____.

A. always be wide open the compressor restarts
B. continue to operate as if the system were in operation
C. open until evaporator pressure equalizes until compressor restarts
D. always be completely closed until the compressor restarts

03827. If you have a duplex double acting reciprocating pump making 270 strokes/minute with 4" diameter cylinder, and a 7" stroke with 81% volumetric efficiency, what is the capacity of this pump?

A. 83 gpm
B. 167 gpm
C. 146 gpm
D. 42 gpm

03828. If you have a duplex double acting reciprocating pump making 170 strokes/minute, with a 7" diameter cylinder, a 11" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 542 gpm
B. 271 gpm
C. 426 gpm
D. 136 gpm

03829. If you have a duplex single acting reciprocating pump making 130 strokes/minute, with a 6" diameter cylinder, a 7" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 121 gpm
B. 104 gpm
C. 52 gpm
D. 207 gpm

03833. If you have a duplex single acting reciprocating pump making 160 strokes/minute, with a 4" diameter cylinder, a 5" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 41 gpm
B. 52 gpm
C. 21 gpm
D. 83 gpm

03834. The pressure in a low pressure refrigeration system about to be opened for repair should be _____.

A. 10 to 12 psig
B. 4 to 7 psig
C. 0 to 1 psig
D. 25 inches of hg vacuum

03836. If you have a duplex single acting reciprocating pump making 250 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 79% volumetric efficiency, what is the capacity of this pump?

A. 132 gpm
B. 75 gpm
C. 38 gpm
D. 150 gpm

03838. If you have a simplex single acting reciprocating pump making 100 strokes/minute, with a 6" diameter cylinder, a 8" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 176 gpm
B. 44 gpm
C. 88 gpm
D. 157 gpm

03839. If you have a duplex single acting reciprocating pump making 170 strokes/minute, with a 5" diameter cylinder, a 9" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 204 gpm
B. 57 gpm
C. 113 gpm
D. 226 gpm

03840. The lathe tool shown as figure "T" in the illustration is commonly known as a/an _____. (See illustration GS-0090)

A. right-cut roughing tool
B. left-cut side-facing tool
C. right-cut side-facing tool
D. left-cut roughing tool

03842. If you have a duplex double acting reciprocating pump making 180 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 268 gpm
B. 626 gpm
C. 134 gpm
D. 537 gpm

03843. If you have a duplex double acting reciprocating pump making 230 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 78% volumetric efficiency, what is the capacity of this pump?

A. 68 gpm
B. 120 gpm
C. 34 gpm
D. 137 gpm

03845. If you have a duplex single acting reciprocating pump making 160 strokes/minute, with a 3" diameter cylinder, a 4" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 25 gpm
B. 19 gpm
C. 9 gpm
D. 38 gpm

03846. If you have a simplex single acting reciprocating pump making 170 strokes/minute, with a 3" diameter cylinder, a 10" stroke and operating with 77% volumetric efficiency, what is the capacity of this pump?

A. 80 gpm
B. 40 gpm
C. 20 gpm
D. 134 gpm

03847. The lathe tool shown as figure "Q" in the illustration is commonly known as a/an _____. (See illustration GS-0090)

A. right-cut roughing tool
B. left-cut side-facing tool
C. right-cut side-facing tool
D. left-cut roughing tool

03849. If you have a simplex single acting reciprocating pump making 120 strokes/minute with 3" diameter cylinder, and a 4" stroke with 95% volumetric efficiency, what is the capacity of this pump?

A. 14 gpm
B. 28 gpm
C. 19 gpm
D. 7 gpm

03850. The lathe tool shown as figure "S" in the illustration is commonly known as a/an _____. (See illustration GS-0090)

A. right-cut roughing tool
B. left-cut side-facing tool
C. right-cut side-facing tool
D. left-cut roughing tool

03853. If you have a duplex double acting reciprocating pump making 180 strokes/minute, with a 5" diameter cylinder, a 13" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 149 gpm
B. 388 gpm
C. 75 gpm
D. 298 gpm

03855. If a block and tackle arrangement were rigged as shown in figure "F" in the illustration, the amount of force "P" required to hold the 250 pound load stationary would be _____. (See illustration GS-0110)

A. 43 lbs.
B. 63 lbs.
C. 83 lbs.
D. 100 lbs.

03856. If you have a duplex double acting reciprocating pump making 250 strokes/minute, with a 3" diameter cylinder, a 5" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 34 gpm
B. 57 gpm
C. 17 gpm
D. 68 gpm

03857. If you have a duplex single acting reciprocating pump making 120 strokes/minute, with a 6" diameter cylinder, a 7" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 110 gpm
B. 47 gpm
C. 95 gpm
D. 189 gpm

03858. If you have a duplex single acting reciprocating pump making 170 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 54 gpm
B. 40 gpm
C. 81 gpm
D. 161 gpm

03859. If you have a simplex single acting reciprocating pump making 140 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 113 gpm
B. 451 gpm
C. 226 gpm
D. 526 gpm

03860. The lathe tool shown as figure "P" in the illustration is commonly used for _____. (See illustration GS-0090)

A. cutting-off
B. left hand rough side facing
C. right hand rough turning
D. machining a smooth surface

03863. If you have a duplex double acting reciprocating pump making 170 strokes/minute, with a 5" diameter cylinder, a 12" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 147 gpm
B. 354 gpm
C. 295 gpm
D. 74 gpm

03864. If you have a duplex double acting reciprocating pump making 210 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 77% volumetric efficiency, what is the capacity of this pump?

A. 123 gpm
B. 62 gpm
C. 108 gpm
D. 31 gpm

03865. A high reading is indicated at the salinity cells labeled "Y", "Q", and "6" shown in the illustration. This would be the probable result of _____. (See illustration GS-0053)

A. a leak in item"I"
B. faulty cells at each location
C. erosion of item "2"
D. carryover from "III"

03866. If you have a duplex single acting reciprocating pump making 130 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 62 gpm
B. 37 gpm
C. 148 gpm
D. 74 gpm

03867. If you have a duplex double acting reciprocating pump making 160 strokes/minute, with a 6" diameter cylinder, a 13" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 113 gpm
B. 453 gpm
C. 227 gpm
D. 491 gpm

03868. Figure "I" shown in the illustration is a diagram of a valve handwheel, with S=5" and T=50 lbs. When an 18 inch cheater bar is used instead, and V=50 lbs., as shown in Figure "II", how much does the torque on the valve stem increase with the use of the cheater bar? (See illustration GS-0109)

A. 115%
B. 154%
C. 250%
D. 360%

03869. The reading on the micrometer scale shown in figure "A" in the illustration is _____. (See illustration GS-0013)

A. 0.403 inch
B. 0.425 inch
C. 0.453 inch
D. 0.504 inch

03870. If a block and tackle arrangement were rigged as shown in figure "F" in the illustration, the amount of force "P" required to hold the 348 pound load stationary would be _____.
(See illustration GS-0110)

A. 57 lbs
B. 66 lbs
C. 79 lbs
D. 87 lbs

03871. If you have a duplex single acting reciprocating pump making 170 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 259 gpm
B. 605 gpm
C. 130 gpm
D. 519 gpm

03872. If you have a duplex double acting reciprocating pump making 100 strokes/minute, with a 6" diameter cylinder, a 10" stroke and operating with 80% volumetric efficiency, what is the capacity of this pump?

A. 98 gpm
B. 196 gpm
C. 272 gpm
D. 49 gpm

03875. If your vessel burns 4 tons of fuel per hour at 21 knots, how many tons per hour will it burn at 16 knots?

A. 3.0 tons
B. 5.3 tons
C. 2.3 tons
D. 1.8 tons

03876. If you have a duplex double acting reciprocating pump making 160 strokes/minute, with a 4" diameter cylinder, a 6" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 50 gpm
B. 101 gpm
C. 76 gpm
D. 25 gpm

03878. In a small appliance using HFC-134a you would expect to see the greatest temperature drop across the _____.

A. evaporator
B. capillary tube
C. compressor
D. receiver

03879. If you have a duplex single acting reciprocating pump making 120 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 54 gpm
B. 36 gpm
C. 27 gpm
D. 108 gpm

03881. If you have a duplex double acting reciprocating pump making 170 strokes/minute, with a 3" diameter cylinder, a 12" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 54 gpm
B. 217 gpm
C. 27 gpm
D. 109 gpm

03882. If you have a duplex single acting reciprocating pump making 190 strokes/minute, with a 3" diameter cylinder, a 11" stroke and operating with 77% volumetric efficiency, what is the capacity of this pump?

A. 181 gpm
B. 49 gpm
C. 25 gpm
D. 98 gpm

03883. The reading indicated on a vernier micrometer caliper scale is .3128 inches. Which of the figures in the illustration represents this reading? (See illustration GS-0091)

A. Figure B
B. Figure C
C. Figure E
D. Figure F

03886. If you have a duplex double acting reciprocating pump making 160 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 91 gpm
B. 128 gpm
C. 183 pm
D. 46 gpm

03888. If you have a duplex double acting reciprocating pump making 330 strokes/minute, with a 3" diameter cylinder, a 4" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 78 gpm
B. 39 gpm
C. 52 gpm
D. 19 gpm

03890. If you have a duplex single acting reciprocating pump making 130 strokes/minute, with a 5" diameter cylinder, a 8" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 132 gpm
B. 82 gpm
C. 41 gpm
D. 164 gpm

03896. If you have a duplex double acting reciprocating pump making 180 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 98% volumetric efficiency, what is the capacity of this pump?

A. 108 gpm
B. 90 gpm
C. 54 pm
D. 216 gpm

03898. If you have a duplex double acting reciprocating pump making 160 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 75 gpm
B. 50 gpm
C. 38 gpm
D. 150 gpm

03901. If you have a duplex single acting reciprocating pump making 120 strokes/minute, with a 5" diameter cylinder, a 9" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 152 gpm
B. 42 gpm
C. 84 gpm
D. 169 gpm

03903. If you have a simplex single acting reciprocating pump making 190 strokes/minute, with a 4" diameter cylinder, a 13" stroke and operating with 77% volumetric efficiency, what is the capacity of this pump?

A. 207 gpm
B. 103 gpm
C. 52 gpm
D. 336 gpm

03906. If you have a duplex double acting reciprocating pump making 190 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 88% volumetric efficiency, what is the capacity of this pump?

A. 205 gpm
B. 102 gpm
C. 85 pm
D. 51 gpm

03911. If you have a simplex single acting reciprocating pump making 180 strokes/minute, with a 4" diameter cylinder, a 12" stroke and operating with 80% volumetric efficiency, what is the capacity of this pump?

A. 188 gpm
B. 94 gpm
C. 282 gpm
D. 47 gpm

03913. If you have a duplex double acting reciprocating pump making 120 strokes/minute, with a 4" diameter cylinder, a 13" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 254 gpm
B. 39 gpm
C. 156 gpm
D. 78 gpm

03916. If you have a duplex double acting reciprocating pump making 150 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 70 gpm
B. 140 gpm
C. 47 pm
D. 35 gpm

03922. If you have a simplex single acting reciprocating pump making 270 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 81% volumetric efficiency, what is the capacity of this pump?

A. 167 gpm
B. 83 gpm
C. 42 gpm
D. 146 gpm

03925. If you have a duplex double acting reciprocating pump making 120 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 378 gpm
B. 189 gpm
C. 441 gpm
D. 95 gpm

03926. If you have a duplex double acting reciprocating pump making 170 strokes/minute, with a 8" diameter cylinder, a 8" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 263 gpm
B. 363 gpm
C. 527 gpm
D. 132 gpm

03936. If you have a duplex double acting reciprocating pump making 190 strokes/minute, with a 3" diameter cylinder, a 9" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 47 gpm
B. 141 gpm
C. 24 gpm
D. 94 gpm

03937. If you have a duplex double acting reciprocating pump making 120 strokes/minute, with a 8" diameter cylinder, a 13" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 312 gpm
B. 625 gpm
C. 507 gpm
D. 156 gpm

03946. If you have a duplex double acting reciprocating pump making 160 strokes/minute, with a 8" diameter cylinder, a 11" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 682 gpm
B. 341 gpm
C. 469 gpm
D. 170 gpm

03951. If you have a duplex single acting reciprocating pump making 250 strokes/minute, with a 4" diameter cylinder, a 6" stroke and operating with 70% volumetric efficiency, what is the capacity of this pump?

A. 86 gpm
B. 29 gpm
C. 57 gpm
D. 114 gpm

03956. If you have a duplex double acting reciprocating pump making 180 strokes/minute, with a 4" diameter cylinder, a 12" stroke and operating with 80% volumetric efficiency, what is the capacity of this pump?

A. 94 gpm
B. 188 gpm
C. 282 gpm
D. 47 gpm

03962. If you have a duplex single acting reciprocating pump making 170 strokes/minute, with a 5" diameter cylinder, a 4" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 40 gpm
B. 25 gpm
C. 101 gpm
D. 50 gpm

03966. If you have a duplex double acting reciprocating pump making 160 strokes/minute, with a 6" diameter cylinder, a 9" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 150 gpm
B. 225 gpm
C. 300 gpm
D. 75 gpm

03973. If you have a duplex single acting reciprocating pump making 130 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 45 gpm
B. 78 gpm
C. 22 gpm
D. 89 gpm

03976. If you have a duplex double acting reciprocating pump making 160 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 75 gpm
B. 50 gpm
C. 38 gpm
D. 150 gpm

03985. If you have a duplex single acting reciprocating pump making 180 strokes/minute with 5" diameter cylinder, and a 6" stroke with 87% volumetric efficiency, what is the capacity of this pump?

A. 96 gpm
B. 80 gpm
C. 40 gpm
D. 160 gpm

03986. If you have a duplex double acting reciprocating pump making 170 strokes/minute, with a 3" diameter cylinder, a 10" stroke and operating with 77% volumetric efficiency, what is the capacity of this pump?

A. 40 gpm
B. 134 gpm
C. 20 gpm
D. 80 gpm

03994. The pressure in a small appliance refrigeration system about to be opened for repair should be _____.

A. 15 inches Hg
B. 14.7 psig
C. 1 to 2 psig
D. 4 inches Hg vacuum

03996. If you have a duplex double acting reciprocating pump making 160 strokes/minute, with a 4" diameter cylinder, a 6" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 101 gpm
B. 254 gpm
C. 50 gpm
D. 76 gpm

03999. If you have a duplex double acting reciprocating pump making 120 strokes/minute, with a 4" diameter cylinder, a 10" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 60 gpm
B. 150 gpm
C. 120 gpm
D. 30 gpm

04003. If you have a duplex single acting reciprocating pump making 160 strokes/minute, with a 4" diameter cylinder, a 6" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 25 gpm
B. 50 gpm
C. 101 gpm
D. 76 gpm

04013. If you have a duplex double acting reciprocating pump making 270 strokes/minute, with a 4" diameter cylinder, a 6" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 66 gpm
B. 99 gpm
C. 33 gpm
D. 132 gpm

04016. If you have a duplex single acting reciprocating pump making 170 strokes/minute, with a 5" diameter cylinder, a 12" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 74 gpm
B. 295 gpm
C. 147 gpm
D. 354 gpm

04017. If you have a duplex double acting reciprocating pump making 150 strokes/minute, with a 5" diameter cylinder, a 12" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 291 gpm
B. 145 gpm
C. 349 gpm
D. 73 gpm

04020. If a block and tackle arrangement were rigged as shown in figure "F" in the illustration, the amount of force "P" required to hold the 508 pound load stationary would be _____.
(See illustration GS-0110)

A. 127 lbs
B. 145 lbs
C. 169 lbs
D. 203 lbs

04022. If a block and tackle arrangement were rigged as shown in figure "F" in the illustration, the amount of force "P" required to hold the 376 pound load stationary would be _____.
(See illustration GS-0110)

A. 94 lbs
B. 119 lbs
C. 125 lbs
D. 150 lbs

04025. The safety feature for assisting the illustrated hydraulic crane to maintain the required boom angle is a function of the _____.
(See illustration GS-0161)

A. braking valve
B. counter-balance valve
C. control valve (item #9)
D. sequencing valve (item #7)

04027. If you have a duplex double acting reciprocating pump making 170 strokes/minute, with a 5" diameter cylinder, a 4" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 101 gpm
B. 50 gpm
C. 40 gpm
D. 25 gpm

04041. If you have a duplex double acting reciprocating pump making 130 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 45 gpm
B. 89 gpm
C. 78 gpm
D. 22 gpm

04044. If you have a simplex single acting reciprocating pump making 110 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 123 gpm
B. 61 gpm
C. 51 gpm
D. 31 gpm

04046. If you have a simplex single acting reciprocating pump making 150 strokes/minute, with a 5" diameter cylinder, a 11" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 60 gpm
B. 238 gpm
C. 119 gpm
D. 262 gpm

04052. If you have a duplex double acting reciprocating pump making 160 strokes/minute, with a 5" diameter cylinder, a 6" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 69 gpm
B. 83 gpm
C. 139 gpm
D. 35 gpm

04058. If you have a simplex single acting reciprocating pump making 130 strokes/minute, with a 3" diameter cylinder, a 5" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 9 gpm
B. 36 gpm
C. 18 gpm
D. 30 gpm

04063. If you have a duplex double acting reciprocating pump making 160 strokes/minute, with a 4" diameter cylinder, a 5" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 41 gpm
B. 52 gpm
C. 21 gpm
D. 83 gpm

04075. If you have a duplex double acting reciprocating pump making 160 strokes/minute with 3" diameter cylinder, and a 4" stroke with 97% volumetric efficiency, what is the capacity of this pump?

A. 38 gpm
B. 19 gpm
C. 25 gpm
D. 9 gpm

04078. If you have a duplex double acting reciprocating pump making 170 strokes/minute with 4" diameter cylinder, and a 11" stroke with 89% volumetric efficiency, what is the capacity of this pump?

A. 91 gpm
B. 181 gpm
C. 249 gpm
D. 45 gpm

04086. If you have a duplex double acting reciprocating pump making 120 strokes/minute, with a 6" diameter cylinder, a 7" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 95 gpm
B. 189 gpm
C. 110 gpm
D. 47 gpm

04097. If you have a duplex double acting reciprocating pump making 130 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 74 gpm
B. 62 gpm
C. 148 gpm
D. 37 gpm

04110. The nut and bolt pictured in the center of the shaft, just below "B" is used to _____. (See illustration GS-0129)

A. prevent the shaft sleeve from sliding
B. hold the impeller onto the shaft
C. maintain the two shaft sections together during rotation
D. hold the packing gland in place

04111. If you have a duplex double acting reciprocating pump making 150 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 87 gpm
B. 73 gpm
C. 44 gpm
D. 174 gpm

04115. If you have a duplex double acting reciprocating pump making 160 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 132 gpm
B. 526 gpm
C. 263 gpm
D. 614 gpm

04118. If you have a duplex single acting reciprocating pump making 100 strokes/minute, with a 7" diameter cylinder, a 13" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 672 gpm
B. 97 gpm
C. 390 gpm
D. 195 gpm

04120. If your vessel burns 3 tons of fuel per hour at 19 knots, how many tons per hour will it burn at 15 knots?

A. 5.3 tons
B. 2.4 tons
C. 1.9 tons
D. 1.5 tons

04122. If you have a duplex double acting reciprocating pump making 120 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 108 gpm
B. 54 gpm
C. 36 gpm
D. 27 gpm

04129. What is the reading of the vernier micrometer caliper scale shown in figure "E" in the illustration? (See illustration GS-0091)

A. 0.2997 inch
B. 0.3007 inch
C. 0.3017 inch
D. 0.3107 inch

04130. The reading on the micrometer scale shown in figure "B" in the illustration is _____. (See illustration GS-0013)

A. 0.113 inch
B. 0.311 inch
C. 0.361 inch
D. 0.453 inch

04133. If you have a duplex double acting reciprocating pump making 130 strokes/minute, with a 5" diameter cylinder, a 8" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 82 gpm
B. 164 gpm
C. 132 gpm
D. 41 gpm

04145. If you have a duplex double acting reciprocating pump making 120 strokes/minute, with a 5" diameter cylinder, a 9" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 84 gpm
B. 152 gpm
C. 169 gpm
D. 42 gpm

04151. If you have a duplex double acting reciprocating pump making 120 strokes/minute, with a 5" diameter cylinder, a 5" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 61 gpm
B. 30 gpm
C. 38 gpm
D. 15 gpm

04153. If you have a duplex single acting reciprocating pump making 180 strokes/minute, with a 4" diameter cylinder, a 9" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 78 gpm
B. 176 gpm
C. 39 gpm
D. 157 gpm

04155. If you have a duplex double acting reciprocating pump making 120 strokes/minute, with a 6" diameter cylinder, a 11" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 149 gpm
B. 273 gpm
C. 74 gpm
D. 297 gpm

04161. If you have a simplex single acting reciprocating pump making 160 strokes/minute, with a 4" diameter cylinder, a 5" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 83 gpm
B. 21 gpm
C. 41 gpm
D. 52 gpm

04165. If you have a duplex single acting reciprocating pump making 110 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 79% volumetric efficiency, what is the capacity of this pump?

A. 72 gpm
B. 52 gpm
C. 26 gpm
D. 103 gpm

04166. If you have a duplex double acting reciprocating pump making 130 strokes/minute, with a 4" diameter cylinder, a 12" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 158 gpm
B. 79 gpm
C. 237 gpm
D. 39 gpm

04172. If you have a duplex double acting reciprocating pump making 230 strokes/minute with 4" diameter cylinder, and a 7" stroke with 78% volumetric efficiency, what is the capacity of this pump?

A. 68 gpm
B. 120 gpm
C. 34 gpm
D. 137 gpm

04173. A micrometer scale reading is indicated as 0.137 inches and is represented in the illustration by _____.
(See illustration GS-0013)

A. Figure D
B. Figure E
C. Figure F
D. Figure I

04177. If you have a duplex double acting reciprocating pump making 160 strokes/minute, with a 5" diameter cylinder, a 6" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 69 gpm
B. 139 gpm
C. 83 gpm
D. 35 gpm

04180. Which of the figures in the fastener illustration GS-0080 would be used with figure "D" in illustration GS-0015?
(See illustration GS-0080 and GS-0015)

A. figure D
B. figure E
C. figure J
D. figure M

04181. In the circle illustrated, the circumference is 48.62 feet. What is the area of the shaded portion? (See illustration GS-0134)

A. 16.1 square feet
B. 4.2 square feet
C. 32.1 square feet
D. 17.1 square feet

04186. The shaft shown in illustration GS-0008 needs to be replaced. Which lathe tools in illustration GS-0090 should be used to turn down a piece of stock for this job? (See illustration GS-0090 and GS-0140)

A. O, T, S, L, and P
B. L, S, R, M, and P
C. Q, U, R, P, and V
D. T, Q, P, U, and L

04187. What is the reading of the vernier caliper scale shown in figure "A" in the illustration? (See illustration GS-0092)

A. 3.8900 inch
B. 3.9150 inch
C. 4.2150 inch
D. 4.8900 inch

04188. If you have a simplex single acting reciprocating pump making 130 strokes/minute, with a 5" diameter cylinder, a 11" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 226 gpm
B. 113 gpm
C. 57 gpm
D. 249 gpm

04195. If you have a duplex single acting reciprocating pump making 150 strokes/minute, with a 7" diameter cylinder, a 9" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 275 gpm
B. 214 gpm
C. 107 gpm
D. 427 gpm

04196. The device shown in the illustration is known as a/an _____. (See illustration GS-0069)

A. viscosimeter
B. flow meter
C. reid vapor pressure analyzer
D. pensky-martens cup

04197. The rupture disc on a low pressure centrifugal unit is used as an over pressure protection device for the _____.

A. economizer
B. condenser
C. compressor
D. chiller barrel

04199. If you have a simplex single acting reciprocating pump making 130 strokes/minute with a 3" diameter cylinder, a 10" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 74 gpm
B. 37 gpm
C. 123 gpm
D. 18 gpm

04200. If you have a simplex single acting reciprocating pump making 150 strokes/minute, with a 4" diameter cylinder, a 6" stroke and operating with 81% volumetric efficiency, what is the capacity of this pump?

A. 50 gpm
B. 25 gpm
C. 59 gpm
D. 99 gpm

04201. Regarding the hydraulic hose installation illustrated, the hose _____. (See illustration GS-0064)

A. will expand under pressure to the left of center with flow from left to right
B. will expand under pressure to the right of center with flow from left to right
C. is properly installed
D. can pull away from the right hand pipe fitting with flow from left to right

04202. The small piston valve shown in the illustration will move from the open to closed position when _____.(See illustration GS-0002)

A. saturated steam enters the trap
B. saturated condensate enters the trap
C. temperature of condensate is approximately 30·F below steam supply saturation temperature
D. temperature of condensate is 30·F above saturated temperature

04203. If you have a duplex single acting reciprocating pump making 150 strokes/minute, with a 7" diameter cylinder, a 13" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 113 gpm
B. 453 gpm
C. 227 gpm
D. 491 gpm

04205. If you have a simplex single acting reciprocating pump making 180 strokes/minute, with a 4" diameter cylinder, a 5" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 24 gpm
B. 94 gpm
C. 47 gpm
D. 59 gpm

04208. Which of the figures illustrated correctly identifies the position of the journal shortly after it has begun to rotate?
(See illustration GS-0121)

A. A
B. B
C. C
D. D

04211. If you have a duplex double acting reciprocating pump making 170 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 30 gpm
B. 119 gpm
C. 60 gpm
D. 104 gpm

04213. If you have a simplex single acting reciprocating pump making 180 strokes/minute, with a 3" diameter cylinder, a 4" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 43 gpm
B. 11 gpm
C. 21 gpm
D. 28 gpm

04215. If you have a duplex single acting reciprocating pump making 150 strokes/minute, with a 6" diameter cylinder, a 13" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 113 gpm
B. 453 gpm
C. 227 gpm
D. 491 gpm

04220. The reading indicated on a vernier micrometer caliper scale is .2470 inches. Which of the figure in the illustration represents this reading? (See illustration GS-0083)

A. Figure A
B. Figure E
C. Figure F
D. Figure G

04223. What is the reading of the vernier micrometer caliper scale shown in figure "F" in the illustration? (See illustration GS-0083)

A. 0.6153 inch
B. 0.6203 inch
C. 0.6253 inch
D. 0.6383 inch

04225. If you have a simplex single acting reciprocating pump making 130 strokes/minute, with a 6" diameter cylinder, a 7" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 207 gpm
B. 104 gpm
C. 52 gpm
D. 121 gpm

04233. If you have a duplex single acting reciprocating pump making 150 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 122 gpm
B. 488 gpm
C. 244 gpm
D. 570 gpm

04236. If you have a simplex single acting reciprocating pump making 130 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 148 gpm
B. 74 gpm
C. 62 gpm
D. 37 gpm

04247. If you have a simplex single acting reciprocating pump making 130 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 30 gpm
B. 118 gpm
C. 59 gpm
D. 39 gpm

04258. If you have a simplex single acting reciprocating pump making 150 strokes/minute, with a 6" diameter cylinder, a 8" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 279 gpm
B. 70 gpm
C. 140 gpm
D. 186 gpm

04268. If a block and tackle arrangement were rigged as shown in figure "D" in the illustration, the amount of force "P" required to hold the 383 pound load stationary would be _____.
(See illustration GS-0110)

A. 57 lbs
B. 77 lbs
C. 128 lbs
D. 153 lbs

04269. If you have a simplex single acting reciprocating pump making 130 strokes/minute, with a 4" diameter cylinder, a 9" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 118 gpm
B. 59 gpm
C. 30 gpm
D. 133 gpm

04280. If you have a simplex single acting reciprocating pump making 130 strokes/minute, with a 5" diameter cylinder, a 11" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 226 gpm
B. 113 gpm
C. 249 gpm
D. 57 gpm

04286. If a block and tackle arrangement were rigged as shown in figure "F" in the illustration, the amount of force "P" required to hold the 324 pound load stationary would be _____.
(See illustration GS-0110)

A. 81 lbs
B. 108 lbs
C. 116 lbs
D. 130 lbs

04291. If you have a simplex single acting reciprocating pump making 140 strokes/minute, with a 3" diameter cylinder, a 12" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 24 gpm
B. 97 gpm
C. 48 gpm
D. 193 gpm

04293. In the circle illustrated, the circumference is 50.24 feet. What is the area of the shaded portion? (See illustration GS-0134)

A. 18.3 square feet
B. 18.2 square feet
C. 5.0 square feet
D. 34.2 square feet

04299. If your vessel burns 2.9 tons of fuel per hour at 20 knots, how many tons per hour will it burn at 15 knots?

A. 1.2 tons
B. 2.2 tons
C. 1.6 tons
D. 6.2 tons

04302. If you have a simplex single acting reciprocating pump making 130 strokes/minute, with a 5" diameter cylinder, a 13" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 267 gpm
B. 67 gpm
C. 134 gpm
D. 347 gpm

04303. If you have a duplex double acting reciprocating pump making 140 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 32 gpm
B. 129 gpm
C. 64 gpm
D. 43 gpm

04305. If you have a duplex double acting reciprocating pump making 150 strokes/minute, with a 6" diameter cylinder, a 8" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 70 gpm
B. 279 gpm
C. 140 gpm
D. 186 gpm

04309. If you have a duplex double acting reciprocating pump making 150 strokes/minute, with a 7" diameter cylinder, a 12" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 142 gpm
B. 570 gpm
C. 285 gpm
D. 488 gpm

04311. If you have a duplex double acting reciprocating pump making 170 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 50 gpm
B. 202 gpm
C. 101 gpm
D. 84 gpm

04313. If you have a simplex single acting reciprocating pump making 130 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 414 gpm
B. 207 gpm
C. 104 gpm
D. 483 gpm

04315. If you have a duplex double acting reciprocating pump making 190 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 27 gpm
B. 109 gpm
C. 54 gpm
D. 95 gpm

04319. If you have a duplex double acting reciprocating pump making 140 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 23 gpm
B. 91 gpm
C. 45 gpm
D. 79 gpm

04321. If you have a duplex double acting reciprocating pump making 160 strokes/minute, with a 4" diameter cylinder, a 10" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 33 gpm
B. 131 gpm
C. 65 gpm
D. 163 gpm

04325. If you have a simplex single acting reciprocating pump making 130 strokes/minute, with a 5" diameter cylinder, a 13" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 267 gpm
B. 134 gpm
C. 347 gpm
D. 67 gpm

04331. If you have a duplex double acting reciprocating pump making 110 strokes/minute, with a 3" diameter cylinder, a 5" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 8 gpm
B. 33 gpm
C. 16 gpm
D. 27 gpm

04333. If you have a duplex double acting reciprocating pump making 160 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 96% volumetric efficiency, what is the capacity of this pump?

A. 47 gpm
B. 188 gpm
C. 94 gpm
D. 78 gpm

04336. If you have a simplex single acting reciprocating pump making 130 strokes/minute, with a 4" diameter cylinder, a 12" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 39 gpm
B. 154 gpm
C. 79 gpm
D. 237 gpm

04342. As shown in the illustration, a section of standard weight, seamless steel pipe, has an external diameter of 3.5 inches. When the pipe, is bent into a 90 degree turn, the length of the outside edge of the curve "A-B" will exceed the length of the inside edge of the curve "C-D" by _____. (See illustration GS-0108)

A. 1.050 inches
B. 1.257 inches
C. 2.670 inches
D. 6.912 inches

04347. If you have a duplex single acting reciprocating pump making 130 strokes/minute, with a 5" diameter cylinder, a 11" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 249 gpm
B. 113 gpm
C. 57 gpm
D. 226 gpm

04349. If you have a duplex double acting reciprocating pump making 120 strokes/minute, with a 5" diameter cylinder, a 6" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 27 gpm
B. 109 gpm
C. 54 gpm
D. 65 gpm

04350. The reading on the micrometer scale shown in figure "C" in the illustration is _____. (See illustration GS-0093)

A. 0.200 inch
B. 0.201 inch
C. 0.220 inch
D. 0.224 inch

04353. If you have a duplex double acting reciprocating pump making 140 strokes/minute, with a 5" diameter cylinder, a 7" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 39 gpm
B. 157 gpm
C. 78 gpm
D. 110 gpm

04358. If you have a duplex, single acting, reciprocating pump making 140 strokes/minute with a 3" diameter cylinder, and a 12" stroke with a 94% volumetric efficiency, what is the capacity of this pump?

A. 193 gpm
B. 24 gpm
C. 48 gpm
D. 97 gpm

04368. If your vessel burns 8 tons of fuel per hour at 15 knots, how many tons per hour will it burn at 22 knots?

A. 11.7 tons
B. 17.2 tons
C. 14.2 tons
D. 25.2 tons

04369. If you have a duplex single acting reciprocating pump making 130 strokes/minute, with a 5" diameter cylinder, a 13" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 347 gpm
B. 67 gpm
C. 267 gpm
D. 134 gpm

04371. If you have a duplex double acting reciprocating pump making 140 strokes/minute, with a 6" diameter cylinder, a 10" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 81 gpm
B. 322 gpm
C. 161 gpm
D. 268 gpm

04378. If you have a duplex single acting reciprocating pump making 140 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 79 gpm
B. 23 gpm
C. 91 gpm
D. 45 gpm

04380. If you have a duplex single acting reciprocating pump making 130 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 207 gpm
B. 483 gpm
C. 104 gpm
D. 414 gpm

04391. If you have a duplex single acting reciprocating pump making 130 strokes/minute, with a 5" diameter cylinder, a 13" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 347 gpm
B. 134 gpm
C. 67 gpm
D. 267 gpm

04396. If you have a simplex single acting reciprocating pump making 170 strokes/minute, with a 6" diameter cylinder, a 5" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 50 gpm
B. 202 gpm
C. 101 gpm
D. 84 gpm

04402. If you have a duplex single acting reciprocating pump making 130 strokes/minute, with a 4" diameter cylinder, a 12" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 237 gpm
B. 39 gpm
C. 79 gpm
D. 158 gpm

04405. The reading on the vernier caliper scale shown in figure "A" in the illustration is _____. (See illustration GS-0082)

A. 1.250 inches
B. 1.500 inches
C. 2.150 inches
D. 2.500 inches

04407. If you have a simplex single acting reciprocating pump making 150 strokes/minute, with a 3" diameter cylinder, a 11" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 24 gpm
B. 96 gpm
C. 48 gpm
D. 176 gpm

04413. If you have a duplex single acting reciprocating pump making 130 strokes/minute, with a 5" diameter cylinder, a 11" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 249 gpm
B. 57 gpm
C. 226 gpm
D. 113 gpm

04419. The reading on the vernier caliper scale shown in figure "B" in the illustration is _____. (See illustration GS-0082)

A. 3.38 inches
B. 3.48 inches
C. 3.83 inches
D. 4.45 inches

04420. The illustrated valve needs to be repaired due to a leak across the valve disk. To repair the valve you should _____. (See illustration GS-0140)

A. replace the entire valve bonnet and stem as a unit as provided by the manufacturer
B. remove the handwheel, then remove part #4 and #5, then replace the item #6 and reassemble in the reverse order
C. disassemble the valve and renew the replaceable valve disk seat
D. disassemble and renew the replaceable valve body seat

04422. What is the reading of the vernier micrometer caliper scale shown in figure "C" in the illustration? (See illustration GS-0091)

A. 0.3715 inch
B. 0.4715 inch
C. 0.4725 inch
D. 0.4815 inch

04428. If you have a duplex single acting reciprocating pump making 130 strokes/minute, with a 3" diameter cylinder, a 10" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 37 gpm
B. 123 gpm
C. 18 gpm
D. 74 gpm

04431. As shown in the illustration, a section of standard weight, seamless steel pipe, has an external diameter of 8.5 inches. When the pipe, is bent into a 90 degree turn, the length of the outside edge of the curve "A-B" will exceed the length of the inside edge of the curve "C-D" by _____. (See illustration GS-0108)

A. 7.697 inches
B. 9.176 inches
C. 11.519 inches
D. 13.352 inches

04432. All refrigerant recovered from small appliances must be _____.

A. sent to a designated reclaim facility for processing
B. contained in a refillable recovery cylinder
C. destroyed as unusable
D. used to clean out burn-outs

04433. The reading on a vernier caliper scale is indicated as 3.360 inches. Which of the figures shown in the illustration represents this reading? (See illustration GS-0082)

A. Figure B
B. Figure C
C. Figure E
D. Figure F

04437. If a block and tackle arrangement were rigged as shown in figure "C" in the illustration, the amount of force "P" required to hold the 250 pound load stationary would be _____.
(See illustration GS-0110)

A. 83.33 lbs
B. 104.16 lbs
C. 125.00 lbs
D. 250.00 lbs

04439. If you have a simplex single acting reciprocating pump making 270 strokes/minute, with a 4" diameter cylinder, a 6" stroke and operating with 75% volumetric efficiency, what is the capacity of this pump?

A. 132 gpm
B. 33 gpm
C. 66 gpm
D. 99 gpm

04443. In a small appliance using HFC-134a you would expect to see the greatest temperature drop across the _____.

A. evaporator
B. receiver
C. compressor
D. condenser

04445. The lathe tool shown as figure "L" in the illustration is commonly known as a/an _____. (See illustration GS-0090)

A. boring tool
B. external threading tool
C. internal threading tool
D. universal turning tool

04447. If you have a simplex single acting reciprocating pump making 150 strokes/minute, with a 6" diameter cylinder, a 14" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 122 gpm
B. 488 gpm
C. 244 gpm
D. 570 gpm

04449. If you have a duplex single acting reciprocating pump making 140 strokes/minute, with a 3" diameter cylinder, a 12" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 193 gpm
B. 24 gpm
C. 48 gpm
D. 97 gpm

04450. What is the reading of the vernier caliper scale shown in figure "E" in the illustration? (See illustration GS-0092)

A. 4.112 inch
B. 4.125 inch
C. 5.112 inch
D. 6.112 inch

04452. What is the reading of the vernier caliper scale shown in figure "D" in the illustration? (See illustration GS-0092)

A. 2.8350 inch
B. 3.3750 inch
C. 3.8350 inch
D. 4.8350 inch

04456. In the diagram, items "2A and 2B" represent the overboard discharge valves of the ballast system illustrated. Which of the following statements is correct if the length between perpendiculars is 500 feet, and the through hull opening is seven feet above the summer loadline? (See illustration GS-0125)

A. Valve 2A must be positive closing, in addition to the indicated automatic non-return valve.
B. Valve 2B must be positive closing, in addition to the indicated automatic non-return valve.
C. Both valves must be positive closing, in addition to the ability to provide automatic non-return.
D. Both valves are correct as indicated in the illustration.

04457. If you have a duplex double acting reciprocating pump making 100 strokes/minute, with a 6" diameter cylinder, a 8" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 44 gpm
B. 88 gpm
C. 157 gpm
D. 176 gpm

04458. If you have a simplex single acting reciprocating pump making 150 strokes/minute, with a 3" diameter cylinder, a 5" stroke and operating with 92% volumetric efficiency, what is the capacity of this pump?

A. 42 gpm
B. 21 gpm
C. 11 gpm
D. 35 gpm

04459. If you have a simplex single acting reciprocating pump making 180 strokes/minute, with a 5" diameter cylinder, a 8" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 53 gpm
B. 213 gpm
C. 106 gpm
D. 170 gpm

04461. If you have a simplex single acting reciprocating pump making 150 strokes/minute, with a 6" diameter cylinder, a 13" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 113 gpm
B. 453 gpm
C. 227 gpm
D. 491 gpm

04463. The reading on the micrometer scale shown in figure "I" in the illustration is _____. (See illustration GS-0095)

A. 0.455 inch
B. 0.500 inch
C. 0.505 inch
D. 0.550 inch

04466. The reading on a vernier caliper scale is indicated as 4.340 inches. Which of the figures shown in the illustration represents this reading? (See illustration GS-0082)

A. Figure B
B. Figure C
C. Figure D
D. Figure E

04470. If you have a simplex single acting reciprocating pump making 150 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 91% volumetric efficiency, what is the capacity of this pump?

A. 104 gpm
B. 52 gpm
C. 91 gpm
D. 26 gpm

04471. The reading indicated on a vernier micrometer caliper scale is .9453 inches. Which of the figures in the illustration represents this reading? (See illustration GS-0091)

A. Figure A
B. Figure C
C. Figure D
D. Figure G

04472. The shaft sleeve for the pump illustrated is identified by the item numbered as ____. (See illustration GS-0143)

A. 14
B. 17
C. 27
D. 68

04473. If you have a duplex double acting reciprocating pump making 140 strokes/minute, with a 3" diameter cylinder, a 9" stroke and operating with 94% volumetric efficiency, what is the capacity of this pump?

A. 39 gpm
B. 157 gpm
C. 79 gpm
D. 217 gpm

04475. If you have a simplex single acting reciprocating pump making 150 strokes/minute, with a 3" diameter cylinder, a 11" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 24 gpm
B. 96 gpm
C. 48 gpm
D. 176 gpm

04476. If you have a duplex single acting reciprocating pump making 270 strokes/minute, with a 4" diameter cylinder, a 7" stroke and operating with 81% volumetric efficiency, what is the capacity of this pump?

A. 83 gpm
B. 146 gpm
C. 42 gpm
D. 167 gpm

04481. If you have a simplex single acting reciprocating pump making 180 strokes/minute, with a 5" diameter cylinder, a 6" stroke and operating with 87% volumetric efficiency, what is the capacity of this pump?

A. 40 gpm
B. 160 gpm
C. 80 gpm
D. 96 gpm

04482. The reading on the micrometer scale shown in figure "2" in the illustration is _____. (See illustration GS-0094)

A. 0.200 inch
B. 0.220 inch
C. 0.250 inch
D. 0.300 inch

04483. What is the reading of the vernier micrometer caliper scale shown in figure "F" in the illustration? (See illustration GS-0091)

A. 0.3107 inch
B. 0.3128 inch
C. 0.3220 inch
D. 0.3228 inch

04487. If you have a simplex single acting reciprocating pump making 160 strokes/minute, with a 6" diameter cylinder, a 12" stroke and operating with 97% volumetric efficiency, what is the capacity of this pump?

A. 114 gpm
B. 456 gpm
C. 228 gpm
D. 456 gpm

04489. If you have a simplex single acting reciprocating pump making 160 strokes/minute, with a 4" diameter cylinder, a 12" stroke and operating with 85% volumetric efficiency, what is the capacity of this pump?

A. 44 gpm
B. 178 gpm
C. 89 gpm
D. 266 gpm

04490. If you have a duplex single acting reciprocating pump making 100 strokes/minute, with a 6" diameter cylinder, a 4" stroke and operating with 90% volumetric efficiency, what is the capacity of this pump?

A. 44 gpm
B. 22 gpm
C. 20 gpm
D. 88 gpm

04492. If you have a duplex double acting reciprocating pump making 130 strokes/minute, with a 5" diameter cylinder, a 11" stroke and operating with 93% volumetric efficiency, what is the capacity of this pump?

A. 113 gpm
B. 226 gpm
C. 249 gpm
D. 57 gpm

04493. Which of the following listed illustrated joint preparations correctly depicts a single "J" groove? (See illustration GS-0077)

A. 3A
B. 4A
C. 5A
D. 6A

04494. The lathe tool shown as figure "U" in the illustration is commonly known as a/an _____. (See illustration GS-0090)

A. cutting-off tool
B. left cut side-facing tool
C. right side end facing tool
D. universal turning tool

04496. In the hydraulic anchor windlass system illustrated, if the power to the electric motor is on, but the wildcat does not turn, the pressure developed on either side of the system increases to half of the normal operating pressure regardless of the direction of movement in which the servo control is placed, the probable cause is the _____. (See illustration GS-0160)

A. replenishing pump coupling is broken
B. relief valve is not opening
C. manual transfer valve is in the wrong position for the main pump being operated
D. spring set point for "I" is too high

04497. If you have a simplex single acting reciprocating pump making 150 strokes/minute, with a 7" diameter cylinder, a 13" stroke and operating with 95% volumetric efficiency, what is the capacity of this pump?

A. 113 gpm
B. 453 gpm
C. 227 gpm
D. 491 gpm

04498. Item "B" in the pump illustration is the _____. (See illustration GS-0129)

A. packing gland
B. stuffing box
C. shaft sleeve
D. wearing ring

04499. If you have a duplex double acting reciprocating pump making 170 strokes/minute, with a 4" diameter cylinder, a 11" stroke and operating with 89% volumetric efficiency, what is the capacity of this pump?

A. 91 gpm
B. 181 gpm
C. 249 gpm
D. 45 gpm

04500. The valve shown in the illustration is used to _____. (See illustration RA-0006)

A. provide the function of compressor unloading
B. regulate refrigerant flow into the evaporator by reacting directly to the evaporator pressure
C. maintain back pressure in the evaporator coils at a pressure higher than the remaining coils in a multi-box system
D. A bellows operated condenser water regulating valve

04501. The hydraulic graphic symbol illustrated as Fig. C is used to depict a/an _____. (See illustration GS-0068)

A. bi-directional rotating motor
B. unidirectional rotating motor
C. variable output, single direction flow pump
D. bi-directional flow pump

00023 B
00037 C
00068 C
00068 C
00073 D
00080 C
00082 A
00104 C
00113 D
00121 C
00123 A
00127 C
00171 A
00173 C
00191 B
00206 B
00210 B
00221 A
00232 A
00241 B
00242 B
00252 C
00259 D
00266 A
00272 D
00276 A
00293 C
00348 A
00359 B
00369 A
00429 D
00440 D
00441 B
00446 A
00462 B
00470 B
00484 B
00493 D
00496 B
00516 B
00524 B
00532 B
00545 A
00551 C
00553 C
00569 D
00573 C
00633 C
00669 D
00804 C
00820 C
00899 C
00969 C
00989 D
01019 C
01046 D
01124 B
01176 C
01179 B
01971 D
02193 C
02266 A
02289 C
02413 B
02417 C
02420 C
02423 C
02427 C
02428 D
02429 A
02436 A
02437 D
02438 B
02439 C
02445 A
02448 B
02458 B
02459 D
02469 C
02478 D
02487 D
02489 C
02503 A
02505 A
02506 D
02507 C
02508 A
02510 C
02516 C
02518 D
02527 B
02539 A
02540 B
02541 C
02542 B
02546 B
02547 C
02550 A
02552 C
02553 B
02558 D
02559 B
02562 D
02582 C
02583 C
02586 B
02588 D
02589 A
02590 A
02592 B
02594 B
02596 B
02597 C
02603 C
02604 C
02608 A
02611 C
02617 C
02620 C
02621 C
02622 D
02626 B
02628 D
02630 C
02632 B
02633 A
02636 B
02638 A
02640 D
02646 B
02649 D
02650 C
02651 C
02652 A
02657 C
02659 D
02662 A
02666 D
02668 D
02669 B
02670 A
02671 A
02672 C
02676 B
02679 D
02680 D
02681 B
02683 A
02686 B
02687 C
02688 B
02689 D
02700 C
02701 B
02706 C
02707 C
02708 B
02709 B
02710 C
02718 B
02719 A
02720 D
02721 C
02728 A
02729 B
02730 B
02732 A
02733 B
02736 A
02738 C
02739 D
02741 C
02742 C
02748 D
02749 A
02750 B
02751 A
02752 B
02760 C
02761 C
02762 D
02763 C
02768 A
02770 D
02772 B
02773 C
02776 C
02777 B
02779 D
02780 A
02781 C
02782 B
02788 B
02789 C
02790 D
02793 B
02796 C
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02997 C
02998 B
02999 A
03000 B
03003 A
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03008 D
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03012 C
03016 A
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03117 D
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03137 A
03139 D
03140 C
03141 A
03145 B
03146 A
03148 B
03151 D
03152 B
03155 A
03157 A
03158 D
03159 C
03161 B
03162 C
03163 A
03165 C
03166 B
03168 A
03169 D
03171 D
03173 A
03176 C
03177 D
03178 C
03185 A
03187 A
03188 D
03192 B
03195 B
03196 A
03197 C
03198 A
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03201 C
03202 D
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04115 B
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04133 B
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04153 A
04155 D
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04166 A
04172 D
04173 B
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04181 A
04186 C
04187 A
04188 C
04195 B
04196 A
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04391 B
04396 A
04402 C
04405 B
04407 D
04413 D
04419 A
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04422 B
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04431 D
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04437 C
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04443 D
04445 C
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04449 C
04450 A
04452 A
04456 D
04457 D
04458 C
04459 D
04461 B
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04471 C
04472 A
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04475 C
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04482 C
04483 B
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04500 B
04501 C

ELECTRICITY

00140. A load is connected to the secondary of the device illustrated and the current through the load is 10 amps. If the step-up ratio is 10 to 1 and the input voltage is 110 VAC, what will be the current flow through the primary? (See illustration EL-0055)

A. 1 amp
B. 10 amps
C. 100 amps
D. 1000 amps

00148. The illustrated lead acid battery is about to be placed in service, the positive plate labeled "D" is made of_____.
(See illustration EL-0031)

A. sponge lead (Pb)
B. lead peroxide (PbO2)
C. lead sulfate (PbSO4)
D. a depolarizing mix

00149. The illustrated lead acid battery is about to be placed in service, the negitive plate, labeled "E", is made of_____.
(See illustration EL-0031)

A. sponge lead (Pb)
B. lead peroxide (PbO2)
C. lead sulfate (PbSO4)
D. zinc oxide (ZnO2)

00154. In the illustration, the component labeled "G" is _____.
(See illustration EL-0031)

A. hard rubber, plastic or bituminous composition
B. porous inside to absorb excess positive ions
C. precharged for (-) and (+) in manufacturing
D. All the above

00219. A load with an impedance of 440 ohms is connected across the secondary of the device illustrated. If the input voltage is 110 VAC and the step-up ratio is 10 to 1, what will be the primary current?
(See illustration EL-0055)

A. 2.5 amps
B. 25 amps
C. 250 amps
D. current cannot be determined with information given

00366. The schematic symbol for an operational amplifier in an analog circuit is a _____.

A. circle
B. square
C. trapezoid
D. triangle

00381. When a solid-state component of an electronic circuit is mounted to a metallic mass, the general purpose of that mass is to _____.

A. prevent vibration damage to delicate components
B. prevent mechanical damage to solid-state components
C. dissipate stray magnetic currents
D. act as a heat sink

00411. In the illustration, if the device in figure "A" has a step-up ratio of 10 to 1, what voltage should be measured at the secondary shortly after the primary of the device is connected to 110 volts DC? (See illustration EL-0059)

A. 0 volts
B. 110 volts
C. 11 volts
D. 1100 volts

00486. A lead-acid battery may become hotter than normal during a charge if the _____.

A. battery has a shorted cell
B. charging voltage is too low
C. specific gravity is too high
D. battery room door is secured

00523. The illustrated circuit is a _____. (See illustration EL-0024)

A. megohm meter
B. Gauss meter
C. wheatstone bridge
D. germanium diode tester

00560. What is the total power consumed by the illustrated circuit if the supply is 24 volts and the resistances of R1 is 3 ohms, R2 is 4 ohms, and R3 is 5 ohms? (See illustration EL-0020)

A. 2 watts
B. 12 watts
C. 48 watts
D. 288 watts

00616. What is the power consumed by "R1" in the circuit illustrated if the supply is 24 volts and the resistance of R1 is 3 ohms, R2 is 4 ohms, and R3 is 5 ohms? (See illustration EL-0020)

A. 2 watts
B. 3 watts
C. 6 watts
D. 12 watts

00651. If the illustrated motor fails to start and gives a loud hum when the start button is pushed, the problem is _____. (See illustration EL-0007)

A. one of the phases to the motor is not energized because of an open motor lead
B. the "Disc.sw." is open
C. power to "L1" at the "Disc.sw." is not energized because of a problem with the ship's electrical distribution system
D. "OL1" is open because of "T1" overload causing the motor to single phase

00660. What is the power consumed by "R2" in the circuit illustrated, if the supply is 24 volts and the resistance of R1 is 3 ohms, R2 is 4 ohms, and R3 is 5 ohms? (See illustration EL-0020)

A. 16 watts
B. 20 watts
C. 24 watts
D. 28 watts

00668. How much current will flow in the illustrated circuit if the supply is 24 volts and the resistances of R1 is 3 ohms, R2 is 4 ohms, and R3 is 5 ohms? (See illustration EL-0020)

A. 2 amps
B. 6 amps
C. 8 amps
D. 10 amps

00670. What is the total current in the illustrated circuit with a 6 volt battery if the resistance of R1 is 2 ohms, R2 is 4 ohms, and R3 is 4 ohms? (See illustration EL-0021)

A. 0.6 amp
B. 1 amp
C. 4 amps
D. 6 amps

00676. What is the voltage across "R1" of the illustrated circuit if the supply is 24 volts and resistance of R1 is 3 ohms, R2 is 4 ohms, and R3 is 5 ohms? (See illustration EL-0020)

A. 2 volts
B. 6 volts
C. 8 volts
D. 10 volts

00696. What is the power consumed by "R3" in the circuit illustrated if the supply is 24 volts and resistance of R1 is 3 ohms, R2 is 4 ohms, and R3 is 5 ohms? (See illustration EL-0020)

A. 12 watts
B. 20 watts
C. 24 watts
D. 48 watts

00732. What is the current flowing through R1 of the illustrated circuit with a 6 VDC battery if the resistance of R1 is 2 ohms, R2 is 4 ohms and R3 is 4 ohms? (See illustration EL-0021)

A. 0.5 amp
B. 1.5 amp
C. 3.0 amps
D. 6 amps

00740. What is the voltage across "R2" of the illustrated circuit if the supply is 24 volts and the resistance of R1 is 3 ohms, R2 is 4 ohms, and R3 is 5 ohms? (See illustration EL-0020)

A. 2 volts
B. 6 volts
C. 8 volts
D. 10 volts

00742. What is the current flow through R1 of the circuit illustrated if the resistance of R1 is 2 ohms, R2 is 3 ohms and R3 is 6 ohms with a 12 VDC battery? (See illustration EL-0021)

A. 2 amps
B. 4 amps
C. 6 amps
D. 12 amps

00766. What is the voltage across "R3" of the illustrated circuit if the supply is 24 volts and the resistance of R1 is 3 ohms, R2 is 4 ohms, and R3 is 5 ohms? (See illustration EL-0020)

A. 2 volts
B. 6 volts
C. 8 volts
D. 10 volts

00780. What is the current through R2 of the circuit illustrated if the resistances of R1 is 2 ohms, R2 is 4 ohms, and R3 is 4 ohms with a 6 volt battery? (See illustration EL-0021)

A. 0.5 amp
B. 1.5 amps
C. 3.0 amps
D. 6 amps

00793. What is the current flowing through R2 of the illustrated circuit if the voltage is 12 VDC and the resistance of R1 is 2 ohms, R2 is 3 ohms and R3 is 6 ohms? (See illustration EL-0021)

A. 2 amps
B. 4 amps
C. 6 amps
D. 12 amps

00829. What is the current flowing through R3 of the illustrated circuit if the battery is 12 VDC and resistance of R1 is 2 ohms, R2 is 3 ohms, and R3 is 6 ohms? (See illustration EL-0021)

A. 2 amps
B. 4 amps
C. 6 amps
D. 12 amps

00868. If the motor fails to start and a voltmeter reading between 1 and 6, as illustrated, indicates line voltage, your next step should be to_____. (See Illustration EL-0007)

A. replace fuse "10a"
B. replace or repair contact "Ma"
C. reset the overload and try restarting
D. check line voltage between L1 and L3

00946. The circuit illustrated represents a single phase AC ground detecting system. If a ground occurs on line "B", which of the lamps will burn the brightest? (See illustration EL-0008)

A. X
B. Y
C. Both will be equal brightness.
D. both will go out.

00965. In the illustrated motor controller, the motor fails to start. A voltmeter reading between 1 and 6 reads line voltage, while the voltmeter reading between 2 and 6 reads 0 VAC. The problem is _____. (See illustration EL-0007)

A. the control fuse is the wrong amperage not allowing full current to pass through
B. the stop switch is open
C. an open in the "M" coil, "Ma" contact/start switch or overload contacts
D. fuse "10a" is blown

00968. In the illustration, the component labeled "EXC" is _____. (See illustration EL-0003)

A. a separate class II regulated DC generator for critical direct current loads
B. a generator feeding the FLD winding through the voltage regulator.
C. the controller to drive the governor for turbogenerator speed.
D. the electronic driver for the switchboard metering circuits

00994. Before servicing the device labeled "A" in the illustration, the device labeled "CT" must _____. (See illustration EL-0003)

A. have the disconnected leads taped to prevent short circuiting.
B. only be connected to multimeter on the ammeter setting
C. be short circuited
D. have one lead grounded to discharge static electricity for the prevention of damage to electronic components

00995. The devices labeled "L" in the illustration are _____. (See illustration EL-0003)

A. load lights indicating that the generator breaker is closed and the generator is supplying power to the main bus
B. synchronizing lights, when the synchroscope is at the 12 o'clock position the lights are on at their brightest indicating that the generators are in phase
C. emergency lighting for the switchboard to enable the meters to be read in case of power failure
D. synchronizing lights, when the synchroscope is at the 12 o'clock position the lights are at their dimmest or out indicating the the generators are in phase

00996. The device labeled "REG SW" in the illustration is used to _____. (See illustration EL-0003)

A. shift from the automatic voltage regulator to the manual voltage regulator
B. shift the governor control from manual to automatic/zero droop
C. enable the operator to read the field voltage on device "REG ADJ" or device "MAN ADJ"
D. supply regulated control power to the switchboard

01006. In the illustration, if one of the devices labeled "TURBO" should fail the _____. (See Illustration EL-0003)

A. device labeled "EXC" will drive the alternator
B. device labeled "BKR" for that alternator should automatically open because of the reverse power relay
C. operator must open all the devices labeled "BKRS" to reduce the load on the remaining turbo-alternator
D. emergency generator should automatically start and be placed on line to supply emergency load centers

01010. In the illustration, "D" is the symbol for a/an _____.
(See Illustration EL-0005)

A. thermal overload heater
B. portable cable
C. fuse
D. indicating lamp

01030. In the illustration the symbol for an N/O contact is_____.
(See illustration EL-0005)

A. A
B. B
C. C
D. D

01038. The motor starts when the start button in the illustration is pushed, but stops when the button is released the trouble is _____.
(See illustration EL-0007)

A. the incorrect thermal overload coil
B. a faulty "M" coil
C. a dirty contact on the Disc.Sw. at "L3"
D. a faulty holding relay contact

01042. The illustrated motor fails to start and gives a loud hum when the start button is depressed, your first action should be to _____.
(See illustration EL-0007)

A. disassemble the motor to fix the centrifical switch so the start windings will be energized
B. push the stop button to deenergize the "M" coil
C. reset the thermal overload
D. hold the "M" contactor closed by hand while wearing electrical safety gloves to get motor started

01050. In the illustration what is the minimum wattage needed for a 3 ohm resistor with a 12 VDC power source in circuit "A"?
(See illustration EL-0041)

A. 12 watts
B. 48 watts
C. 64 watts
D. 232 watts

01055. In the illustrated circuit "A", what power is consumed by a 3 ohm resistor with a 12 volt source? (See illustration EL-0041)

A. 12 watts
B. 48 watts
C. 64 watts
D. 232 watts

01058. If the battery in the illustration is rated for 120 amp-hours, how long before the voltage will drop to 1.75 volts per cell?
(See illustration EL-0018)

A. 12 hours
B. 1.25 days
C. 64 hours
D. 2.5 days

01059. The circuit illustrated represents a 2 wire DC ground detecting system. If the positive bus is grounded and the test button is pushed, which of the lamps will be brightest? (See illustration EL-0008)

A. X
B. Y
C. both will be equal brightness.
D. both will go out.

01065. In the illustration, the assembly labeled 2 is a _____. (See illustration EL-00001)

A. wound rotor and shaft for a single phase induction motor
B. conduction rotor and shaft for a polyphase induction motor
C. squirrel cage rotor and shaft for a polyphase motor
D. squirrel cage rotor for a single phase induction motor

01066. In the illustration the rotor is constructed of _____. (See illustration EL-0001)

A. aluminum windings poured into a slotted laminated core pressed onto a shaft
B. copper windings wound into a laminated iron core with end ring cooling fins pressed onto a shaft
C. aluminum windings fitted into an insulation block pressed onto a shaft
D. copper start and run windings wound on a laminated iron core with cooling fins pressed onto a shaft

01068. In the illustrated motor, roller bearings are used because _____. (See illustration EL-0001)

A. of their ability to absorb moderate thrust loads
B. they electrically insulate the rotor from the frame reducing cross-currents
C. the shafting and end bells do not require as close a tolerance to properly fit this type of bearing
D. the clearance between the rotor and stator is generally as close as mechanical tolerance will permit

01069. In the illustrated device, the part labeled "1A" _____. (See illustration EL-0001)

A. are start and run windings for a single phase shaded pole induction motor
B. is the stator for a polyphase induction motor
C. is the armature for a squirrel cage rotor motor
D. are direct current shunt field windings for a universal motor

01080. Federal Regulations (46 CFR) require the lamps in the illustrated system to be_____. (See illustration EL-0009)

A. of a high impedance type to prevent damage to the distribution system.
B. between 5 and 25 watts at one half line voltage when operating in the absence of a ground
C. isolated from the distribution system by an isolation transformer
D. of equal voltage and wattage

01085. In the illustrated ground detection system with a ground on phase A, if the switch is opened _____. (See illustration EL-0009)

A. lamp A will dim or go out depending on the severity of the ground
B. all three lamps will return to their normal brightness indicating that the bulbs are not burnt out
C. lamps B and C will dim lamp A will be brighter
D. lamp A will start flickering if the ground is in an AC induction motor

01088. On the meter scale illustrated, while using the R X 100 scale, the reading at "A" will be _____. (See illustration EL-0047)

A. 2,000 ohms
B. 20 Kohms
C. 200 Kohms
D. 3 Megohms

01093. On the meter scale illustrated, while using the R X 100 scale, the reading at "D" will be _____. (See illustration EL-0047)

A. 3.6 ohms
B. 36 ohms
C. 193 ohms
D. 360 ohms

01095. On the meter scale illustrated, while using the R X 100 scale, the reading at "C" will be _____. (See illustration EL-0047)

A. 13 ohms
B. 120 ohms
C. 130 ohms
D. 13 kohms

01096. On the meter scale illustrated, while using the R X 100 scale, the reading at "B" will be _____. (See illustration EL-0047)

A. 70 ohms
B. 35 ohms
C. 700 ohms
D. 7 kohms

01098. On the meter scale illustrated, while using the R X 100 scale, the reading at "F" will be _____. (See illustration EL-0047)

A. 300 ohms
B. 240 ohms
C. 30 ohms
D. 3 kohms

01106. On the meter scale illustrated, while using the R X 1 scale, the reading at "Z" will be _____. (See illustration EL-0047)

A. 30 ohms
B. 72 ohms
C. 720 ohms
D. 7.2 Kohms

01108. What is the resistance value indicated by the multimeter scale illustrated, if the range switch is set at R X 1 and the needle is at the position indicated by the letter "Y"? (See illustration EL-0047)

A. 2.2 ohms
B. 24 ohms
C. 240 ohms
D. 2,400 ohms

01109. The transistors in the illustrated circuit are connected using what type of coupling? (See illustration EL-0050)

A. RC coupling
B. transformer coupling
C. Impedance coupling
D. direct coupling

01113. What is the resistance value indicated by the multimeter scale illustrated, if the range switch is set at R X 1, and the needle is at the position indicated by the letter "B"? (See illustration EL-0047)

A. 1.45 ohms
B. 7.2 ohms
C. 37 ohms
D. 70 ohms

01116. What is the resistance value indicated by the multimeter scale illustrated, if the range switch is set at R X 1, and the needle is at the position indicated by the letter "C"? (See illustration EL-0047)

A. 1.3 ohms
B. 4.8 ohms
C. 13 ohms
D. 121 ohms

01118. What is the resistance value indicated by the multimeter scale illustrated, if the range switch is set at R X 1, and the needle is at the position indicated by the letter "X"? (See illustration EL-0047)

A. 8 ohms
B. 6.2 ohms
C. 1.57 ohms
D. 150 ohms

01119. What is the resistance value indicated by the multimeter scale illustrated, if the range switch is set at R X 1, and the needle is at the position indicated by the letter "R"? (See illustration EL-0047)

A. 6 ohms
B. 6.8 ohms
C. 1.7 ohms
D. 167 ohms

01120. What is the resistance value indicated by the multimeter scale illustrated, if the range switch is set at R X 1, and the needle is at the position indicated by the letter "D"? (See illustration EL-0047)

A. 7.8 ohms
B. 8 ohms
C. 3.8 ohms
D. .38 ohms

01126. What is the resistance value indicated by the multimeter scale illustrated, if the range switch is set at R X 1, and the needle is at the position indicated by the letter "F"? (See illustration EL-0047)

A. 0.6 ohms
B. 6 ohms
C. 9.6 ohms
D. .38 ohms

01128. If reading the AC voltage from a typical wall outlet, the range switch of the device illustrated should be set to _____. (See illustration EL-0047)

A. 1,000 V
B. 250 V
C. R X 10,000
D. 10 ma/amps

01129. If reading the AC voltage from the line lead of a 440 VAC controller the range switch illustrated should be set to _____. (See illustration EL-0047)

A. 1,000 V
B. 250 V
C. R X 10,000
D. Unable to safely read with this meter.

01136. If reading the AC current with the illustrated device and are unsure of the range, the range switch should be set to _____. (See illustration EL-0047)

A. 10 MA/ 10 AMP with leads in the (-10 A) and (+10 A) jacks
B. 10 MA/ 10 AMP with leads in the (-COMMON) and (+) jacks
C. 10 MA/ 10 AMP with leads in the (-COMMON) and (+10 A) jacks
D. unable to measure current with this device because it needs to be connected in series

01139. If reading AC current with the illustrated device and unsure of the range, the first step should be to _____. (See illustration EL-0047)

A. secure power and test for voltage
B. disconnect the lead to be tested and connect the meter in series
C. connect the meter to measure resistance and use Ohm's law to calculate current
D. unable to safely measure current with the device

01140. In the illustration, the component "B" is attached to the component "G" by _____. (See illustration EL-0031)

A. melting the top of "G" and pressing "B" onto it
B. "C" holding it in place
C. sealing compound made of bituminous substance
D. vacuum created in the battery by electrolytic action

01146. In the illustration, the component labeled "G" _____.
(See illustration EL-0031)

A. is lined with cardboard to maintain a moisture (electrolyte) barrier between cells
B. is a one piece container with compartments for each individual cell
C. must be UL approved for shipboard use
D. can only contain one cell

01148. The transistors in the illustrated circuit are connected using what type of coupling? (See illustration EL-0051)

A. RC coupling
B. transformer coupling
C. impedance coupling
D. direct coupling

01156. Federal Regulations (46 CFR) require the circuit in the illustration to _____. (See illustration EL-0009)

A. be at the vessel's ship's service generator distribution switchboard for normal power, normal lighting and emergency lighting systems.
B. not have any resulting ground currents flow through hazardous locations on a tank vessel where line to line voltage exceeds 3,000 VAC
C. not be used on systems where the resulting ground will interfere with the operation of electronic equipment
D. All the above are correct

01158. In the illustration, the purpose of part B is to _____.
(See illustration EL-0033)

A. increase resistance in series with the contacts as they close to prevent arcing
B. create a magnetic field in the steel plates that interacts with the arc to cool and extinguish the arc
C. cause the contacts to open in the event of an overload
D. provide ventilation to the contact when the breaker is close to rated capacity

01161. In the illustration, the the device E is the_____.

A. bimetal strip
B. moving contact
C. trip bar
D. handle

01163. The component F in the illustrated device is for _____.
(See illustration EL-0033)

A. short circut protection
B. latching the trip unit closed after resetting the breaker
C. overload protection
D. providing a flexible connection between the input terminal G and the tripping unit E

01164. In the illustration the component C is the _____.
(See illustration EL-0033)

A. fixed contact
B. moving contact
C. connection terminal
D. trip bar

01166. The transistors in the illustrated circuit are connected using what type of coupling? (See illustration El-0048)

A. RC coupling
B. transformer coupling
C. LC coupling
D. direct coupling

01167. In the illustrated 450 VAC system, what should be provided between the bus and the device labeled "F"? (See illustration EL-0003)

A. a potential transformer
B. a current transformer
C. an emergency disconnect device
D. an audible alarm and indicating light

01168. The transistors in the illustrated circuit are connected using what type of coupling? (See illustration EL-0049)

A. RC coupling
B. transformer coupling
C. LC coupling
D. direct coupling

01169. On the meter scale illustrated, while using the R X 1 scale, the reading at "F" will be _____. (See illustration EL-0047)

A. 1.8 ohms
B. 6.0 ohms
C. 9.4 ohms
D. 0.6 ohms

01176. On the meter scale illustrated, while using the R X 1 scale, the reading at "E" will be _____. (See illustration EL-0047)

A. 1.8 ohms
B. 18.0 ohms
C. 8.8 ohms
D. 11.8 ohms

01180. If the illustrated lighting branch distribution box is not for cargo or deck lighting, the Code of Federal Regulations require the designed load attached to Branch NO.2 to be _____.
(See illustration EL-0013)

A. 5 amps
B. 16 amps
C. 30 amps
D. 50 amps

01186. In the illustration if BRANCH NO. 1 is a lighting circuit for crew's berthing, Federal Regulations (46 CFR) require the maximum fuse rating for that branch to be _____. (See illustration EL-0013)

A. 15 amps
B. 80% of the connected load
C. 20 amps
D. 30 amps

01188. If reading the AC current with the illustrated device and are unsure of the range, the range switch should be set to _____. (See illustration EL-0047)

A. 500 MA
B. 10 MA/ 10 AMP with leads in the (-COMMON) and (+) jacks
C. 10 MA/ 10 AMP with leads in the (-COMMON) and (+10 A) jacks
D. 10 MA/ 10 AMP with leads in the (-10 A) and (+10 A) jacks

01189. Federal Regulations (46 CFR) require that, in the system illustrated, the switch must _____. (See illustration EL-0009)

A. be normally-open, spring return-to-normal
B. have an amperage rating equal to at least 1 1/2 times the fuse amperage rating
C. be connected between the lamps and ground
D. all the above are correct

01195. In the illustration, the component labeled C is _____. (See illustration EL-0033)

A. moving contact
B. fixed contact
C. trip bar
D. bimetallic strip

01198. In the illustration, the large battery and R(L) are in the circuit to _____. (See illustration EL-0022)

A. forward bias the emitter-base
B. reverse bias the emitter-base
C. forward bias the emitter/collector
D. reverse bias the emitter/collector

01199. When a voltage of 115 VDC is applied to the illustrated circuit with a resistance of 1.74 ohms the current will be _____. (See illustration EL-0018)

A. 66.09 amps
B. 116.74 amps
C. .026 amps
D. .015 amps

01200. What is the total resistance of the electrical circuit illustrated if the resistance of R1 is 2 ohms, R2 is 4 ohms, and R3 is 4 ohms with a 6 volt battery? (See illustration EL-0021)

A. 0.01 ohms
B. 0.10 ohms
C. 1.00 ohms
D. 10.00 ohms

01201. When a voltage of 95 VDC is applied to the circuit illustrated with a resistance of 17.8 ohms the current will be_____. (See illustration EL-0018)

A. .187 amps
B. 3.34 amps
C. 5.34 amps
D. 112.8m amps

01205. In the illustration, the function generators will accept only a signal of a given polarity, if negative is used for ahead and positive for astern, moving the bridge reference in the direction indicated will _____. (See illustration SE-0002)

A. pass through the amplifier M to the astern function generator to open the astern steam valve
B. pass through the amplifier M to the ahead function generator to open the ahead steam valve
C. do nothing because engineroom control is selected
D. not cause a speed change until the output voltage exceeds the value of the lube oil pressure override

01206. In the illustration, moving the engine room reference in the direction indicated will _____. (See illustration SE-0002)

A. cause a positive signal to be sent to the ahead function generator creating a more positive signal at the ahead motor supply (SCR's) causing the ahead valve to open
B. cause no change unless the ahead speed error contact is closed
C. not cause a change until the feedback signal from the ahead turbine pressure reaches a preset level
D. not cause the ahead valve to open until the negative signal exceeds the low lube oil pressure override signal

01216. In the illustration, the tan and white wires are connected to the solenoid valve. The solenoid valve is_____. (See illustration EL-0042)

A. in the liquid line before the TXV
B. energized and open whenever the unit is plugged in
C. not grounded so the unit must be modified before using aboard ship
D. the water inlet for the ice maker

01218. In the illustration if the compressor fails to start but the condenser fan motor is running the problem is _____. (See illustration EL-0043)

A. no power between L1 and L2
B. the yellow wire is open at the freezer temperature control switch
C. the overload open
D. the blue wire from the defrost heater is open

01219. The reading at "P" on the megger scale shown in the illustration, is _____. (See illustration EL-0044)

A. 15 meg ohms
B. 1.5 meg ohms
C. 1.5 kilo ohms
D. 150,000 ohms

01226. The reading at "V" on the megger scale shown in the illustration, is _____. (See illustration EL-0044)

A. 40 meg ohms
B. 0.40 meg ohms
C. 4.0 kilo ohms
D. 40,000 ohms

01228. In the illustrated circuit, the amplifier is connected in what basic configuration? (See illustration EL-0045)

A. common emitter
B. common collector
C. darlington paired, capacitor coupled
D. common base

01229. The advantage of using the illustrated circuit configuration is _____. (See illustration EL-0045)

A. high input resistance
B. high current gain
C. the best stability with an increase in temperature
D. the input and output are 180 degrees out of phase

01230. In the illustrated electronic governor, the circuit card connected to the potential and current transformers is for _____. (See illustration EL-0046)

A. increasing the signal strength to the governor to maintain constant engine speed with increased load
B. send a kilowatt signal to the metering circuit
C. shutting down the prime mover in the event of reverse power to protect from motorization
D. conditioning the load through the use of a magnetic amplifier current transformer

01235. In the illustration, the contacts between terminals 26 and 27 should be closed when _____. (See illustration EL-0046)

A. using one generator in isochronous mode only
B. using two or more generators in parallel only
C. the prime mover speed is to remain constant through varying loads in parallel or single operation
D. the circuit breaker is closed for that generator

01245. In the illustration, the diode between terminals 16 and 17 is to _____.

A. insure that the voltage across the governor coil (EG-3P) never exceeds .6 VDC
B. compensate for the temperature difference of the governor oil heating up
C. protect the electronic governor from counter EMF
D. act as a filter to prevent hunting

01246. In the illustration, the diode between terminals 16 and 17 is to _____.

A. act as a short circuit for the sensing coil when CEMF is applied
B. insure that the voltage across the coil does not exceed 9 volts
C. improve response time
D. act as a filter to prevent hunting

01248. In the illustration, the component VR1 on the A1A1 PCB is _____. (See illustration EL-0060)

A. a zener diode to regulate the +9 volt power supply
B. a variable resistor diode to control the output to terminal 9 that controls the input to terminal 10
C. a zener diode that regulates the voltage to terminal 9 at 6.6 volts DC
D. a tunnel diode with a breakdown voltage of 6.6 Volts DC

01249. In the illustrated amplifier, the RESET potentiometer A1R2 sets the stability of the control loop by changing the reset time constant. As the potentiometer is turned clockwise _____. (See illustration EL-0060)

A. the gain is increased
B. the stability is increased by slowing the response time
C. feedback is increased to the summing point at terminal 5
D. response time is increased decreasing stability

01250. In the illustration, the chemical reaction depicted indicates that the _____. (See illustration EL-0061)

A. battery is being charged at a high rate
B. cell is short circuited
C. cell is discharging
D. battery is attached to a trickle charger

01252. If the illustrated device is fully discharged, what will be the result? (See illustration EL-0061)

A. The plates will be maximum lead sulfate minimum sponge lead and lead oxide, the electrolyte will be maximum water minimum sulfuric acid.
B. The plates will be maximum sponge lead and lead oxide minimum lead sulfate, the electrolyte will be maximum sulfuric acid minimum water
C. The plates will be maximum lead sulfate minimum sponge lead and lead oxide, the electrolyte will be maximum sulfuric acid minimum water.
D. The plates will be maximum lead oxide and sponge lead minimum lead sulfate, the electrolyte will be maximum water minimum sulfuric acid

01255. If the illustrated device is fully discharged, what will be the result? (See illustration EL-0061)

A. The battery will be short circuited because the mud space will be filled with lead sulfate
B. The electrolyte will be maximum sulfuric acid minimum water
C. The electrolyte will be maximum water minimum sulfuric acid.
D. The plates will be maximum lead oxide and sponge lead minimum lead sulfate.

01256. In the illustration, the component VR1 on the A1 AMPLIFIER MODULE is _____. (See illustration EL-0060)

A. a zener diode to regulate the +9 volt power supply from common
B. a variable resistor diode to control the output to terminal 9 that controls the input to terminal 10
C. a zener diode that regulates the voltage to terminal 9 at 6.6 volts DC
D. a tunnel diode with a breakdown voltage of 6.6 Volts DC

01258. In the illustration, the component VR2 on the A1 AMPLIFIER MODULE is _____. (See illustration EL-0060)

A. a zener diode to regulate the +9 volt power supply from common
B. a variable resistor diode to control the output to terminal 1 that controls the input to terminal 10
C. a zener diode that regulates the voltage to terminal 2 at 9.1 volts DC
D. a tunnel diode with a breakdown voltage of 6.6 Volts DC

01266. What is the resistance value indicated by the multimeter scale illustrated, if the range switch is set at R X 1, and the needle is at the position indicated by the letter "A"? (See illustration EL-0047)

A. 10 ohms
B. 100 ohms
C. 200 ohms
D. 1,000 ohms

01268. In the illustration, the small battery and Rb are in the circuit to apply _____. (See illustration EL-0022)

A. forward bias to the emitter-base
B. reverse bias to the emitter-base
C. a "reference charge" on the input capacitor
D. a buffer between the input ground and the emitter ground

01269. In the illustration, the tan and white wires are connected to the solenoid valve. The solinoid valve is_____. (See illustration EL-0043)

A. in the liquid line before the TXV
B. energized and open whenever the unit is plugged in
C. not grounded so the unit must be modified before using aboard ship
D. the water inlet for the ice maker

01272. In the illustration, when the energy saver switch is in the "lo" position _____. (See illustration EL-0042)

A. the mullion and frz flange heaters will not energize
B. the mullion heater and refrig light will not energize
C. the mullion, frz flange, defrost heaters will not energize
D. the range of the freezer temperature control is increased causing the cut-in temp to become warmer

01276. In the illustration if the compressor fails to start but the condenser fan motor is running the problem is _____. (See illustration EL-0042)

A. no power between L1 and L2
B. the yellow wire is open at the freezer temperature control switch
C. the overload is open
D. the blue wire from the defrost heater is open

01342. On the meter scale illustrated, while using the R X 100 scale, the reading at "Z" is_____. (See illustration EL-0047)

A. 3,000 ohms
B. 30,000 ohms
C. 300,000 ohms
D. 3,000,000 ohms

01362. What is the resistance value indicated by the multimeter scale illustrated, if the range switch is set at R X 100, and the needle is at the position indicated by the letter "Y"? (See illustration EL-0047)

A. 220 ohms
B. 240 ohms
C. 2,400 ohms
D. 24,000 ohms

01372. The reading at "X" while on the R X 100 meter scale illustrated would be _____. (See illustration EL-0047)

A. 8 ohms
B. 150 ohms
C. 800 ohms
D. 80,000 ohms

01382. What is the resistance value indicated on the multimeter scale illustrated, if the range switch is set at R X 100, and the needle is at the position indicated by the letter "R"? (See illustration EL-0047)

A. 6.5 ohms
B. 162.5 ohms
C. 650 ohms
D. 16,250 ohms

01392. The reading at "C" on the megger scale illustrated, is ____. (See illustration EL-0044)

A. 200,000 ohms
B. 2,000,000 ohms
C. 20,000,000 ohms
D. 200,000,000 ohms

01398. The illustrated circuits are used to measure _____. (See illustration EL-0024)

A. resistance
B. gauss or magnetic field strength
C. battery discharge rate in Amp-hours
D. current

01405. A disadvantage of using the configuration in the illustrated circuit is _____. (See illustration EL-0045)

A. no current gain
B. high input resistance
C. high voltage gain
D. becomes unstable with an increase of ambient temperature

01406. In the illustration, when the energy saver switch is in the "lo" position, the _____. (See illustration EL-0043)

A. mullion and frz flange heaters will not energize
B. mullion heater and refrig light will not energize
C. mullion, frz flange, defrost heaters will not energize
D. range of the freezer temperature control is increased causing the cut-in temp to become warmer

01426. The reading at "M" on the megger scale illustrated, is ____. (See illustration EL-0044)

A. 7.1 meg ohms
B. 71 meg ohms
C. .71 meg ohms
D. 200,000,000 ohms

01428. In the illustration, the signal from the device connected to terminals 18 and 19 is _____. (See illustration EL-0046)

A. prime mover speed feedback
B. loss of control alarm when comparing with the input signal from the resistor at the top of the speed sensing circuit card
C. hall effect current to detect slip between the prime mover and the alternator
D. to shut down the prime mover if overspeeding

02001. The purpose of the item labeled "Z" in assembly No. 2, shown in the illustration is to _____. (See illustration EL-0001)

A. keep the rotor in balance
B. align the rotor to the stator
C. dynamically balance the rotor
D. cool the motor

02391. Which of the following statements is correct for the illustrated circuit? (See illustration EL-0020)

A. "R1", "R2", and "R3" are connected in series.
B. "R1", "R2", and "R3" are connected in parallel.
C. The voltages measured across "R1", "R2", and "R3" are equal.
D. The total resistance equals 1/R1 + 1/R2 + 1/R3.

02411. The electrical schematic illustrated in figure A, depicts a/an _____. (See illustrated EL-0059)

A. autotransformer
B. Delta Wye transformer
C. primary EMF generator
D. potential transformer

02507. When a voltage of 442.7 VDC is applied to the illustrated circuit with a resistance of 1.25 ohms the current will be _____. (See illustration EL-0018)

A. 28.25 amps
B. 35.32 amps
C. 353.89 amps
D. 443.62 amps

02519. When a voltage of 25 VDC is applied to the illustrated circuit with a resistance of 105.3 ohms the current will be _____.
(See illustration EL-0018)

A. 130.3 amps
B. 4.212 amps
C. 1.237 amps
D. 0.237 amps

02523. When a voltage of 115 VDC is applied to the illustrated circuit with a resistance of 12 ohms the current will be _____.
(See illustration EL-0018)

A. 127 amps
B. 9.58 amps
C. 104.34 amps
D. 1.24 amps

02527. When a voltage of 115 VDC is applied to the illustrated circuit with a resistance of 32 ohms the current will be _____.
(See illustration EL-0018)

A. 278.26 amps
B. 147.00 amps
C. 8.90 amps
D. 3.59 amps

02531. When a voltage of 115 VDC is applied to the illustrated circuit with a resistance of 110 ohms the current will be _____.
(See illustration EL-0018)

A. 1.045 amps
B. 225 milliamps
C. 2.045 amps
D. 965.52 milliamps

02541. If the supply voltage is 220 volts 60 Hz, what is the operating voltage of the motor controller circuitry illustrated?
(See illustration EL-0011)

A. 110 volts DC
B. 110 volts AC
C. 220 volts DC
D. 220 volts AC

02547. When a voltage of 115 VDC is applied to the illustrated circuit with a resistance of 10,230 ohms the current will be _____
(See illustration EL-0018)

A. 88.95 milliamps
B. 103.45 milliamps
C. 11.24 milliamps
D. .91 amps

02551. When a voltage of 115 VDC is applied to the illustrated circuit with a resistance of 470 ohms the current will be _____.
(See illustration EL-0018)

A. 244 milliamps
B. 4.07 amps
C. 5.85 amps
D. 19.21 amps

02559. When a voltage of 115 VDC is applied to the illustrated circuit with a resistance of 237 ohms the current will be _____.
(See illustration EL-0018)

A. 0.485 amps
B. 1.485 amps
C. 2.06 amps
D. 0.352 amps

02567. When a voltage of 115 VDC is applied to the illustrated circuit with a resistance of 17.8 ohms the current will be _____.
(See illustration EL-0018)

A. 0.154 amps
B. 2.755 amps
C. 6.46 amps
D. 0.1328 amps

02571. What is the total current of the illustrated circuit if the battery is 12 VDC and the resistance of R1 is 2 ohms, R2 is 3 ohms and R3 is 6 ohms? (See illustration EL-0021)

A. 2 amps
B. 4 amps
C. 6 amps
D. 12 amps

02599. When a voltage of 95 VDC is applied to the illustrated circuit with a resistance of 12 ohms the current will be _____.
(See illustration EL-0018)

A. 6.126 amps
B. 1.515 amps
C. 7.916 amps
D. 107 amps

02611. When a voltage of 95 VDC is applied to the illustrated circuit with a resistance of 32 ohms the current will be _____.
(See illustration EL-0018)

A. 0.336 amps
B. 2.968 amps
C. 103.78 milliamps
D. 127 milliamps

02617. When a voltage of 95 VDC is applied to the illustrated circuit with a resistance of 110 ohms the current will be _____.
(See illustration EL-0018)

A. 0.863 amps
B. 1.16 amps
C. 1.863 amps
D. 205 milliamps

02621. When a voltage of 95 VDC is applied to the illustrated circuit with a resistance of 10.23 kohms the current will be _____.
(See illustration EL-0018)

A. 9.29 milliamps
B. 107.68 amps
C. 10.32 amps
D. 11.02 amps

02633. When a voltage of 95 VDC is applied to the circuit illustrated with a resistance of 470 ohms the current will be _____.
(See illustration EL-0018)

A. 4.95 amps
B. 202.2 milliamps
C. 565.00 milliamps
D. 2,325 milliamps

02643. When a voltage of 95 VDC is applied to the circuit illustrated with a resistance of 237 ohms the current will be_____.
(See illustration EL-0018)

A. 1.40 amps
B. 2.49 amps
C. 332 milliamps
D. 400.8 milliamps

02657. When a voltage of 110 VDC is applied to the circuit illustrated with a resistance of 12 ohms the current will be_____.
(See illustration EL-0018)

A. .11 amps
B. 1.31 amps
C. 9.17 amps
D. 122m amps

02667. When a voltage of 110 VDC is applied to the circuit illustrated with a resistance of 32 ohms the current will be_____.
(See illustration EL-0018)

A. .29 amps
B. 3.44 amps
C. 9.31 amps
D. 142 amps

02671. When a voltage of 110 VDC is applied to the illustrated circuit with a resistance of 110 ohms the current will be_____.
(See illustration EL-0018)

A. .2 amps
B. .1 amps
C. 1 amps
D. 220m amps

02679. When a voltage of 110 VDC is applied to the circuit illustrated with a resistance of 10,230 ohms the current will be_____.
(See illustration EL-0018)

A. 0.0107 amps
B. 93 amps
C. 10,340 amps
D. .951 amps

02687. When a voltage of 110 VDC is applied to the illustrated circuit with a resistance of 470 ohms the current will be_____.
(See illustration EL-0018)

A. .234 amps
B. 4.272 amps
C. 580 amps
D. 2,008 amps

02691. When a voltage of 110 VDC is applied to the illustrated circuit with a resistance of 237 ohms the current will be_____.
(See illustration EL-0018)

A. .464 amps
B. 1.464 amps
C. 2.154 amps
D. 3.47 amps

02697. When a voltage of 110 VDC is applied to the illustrated circuit with a resistance of 17.8 ohms the current will be_____.
(See illustration EL-0018)

A. 2.88 amps
B. 6.18 amps
C. 127.8m amps
D. 161 amps

02701. When a voltage of 112 VDC is applied to the illustrated circuit with a resistance of 12 ohms the current will be_____.
(See illustration EL-0018)

A. .107 amps
B. 1.28 amps
C. 9.33 amps
D. 124 m amps

02709. When a voltage of 112 VDC is applied to the illustrated circuit with a resistance of 32 ohms the current will be_____.
(See illustration EL-0018)

A. .285 amps
B. 3.5 amps
C. 9.142 amps
D. 144 m amps

02713. When a voltage of 112 VDC is applied to the circuit illustrated with a resistance of 110 ohms the current will be_____.
(See illustration EL-0018)

A. .982 amps
B. 1.018 amps
C. 2.018 amps
D. .222 amps

02719. When a voltage of 112 VDC is applied to the circuit illustrated with a resistance of 10,230 ohms the current wil be_____.
(See illustration EL-0018)

A. .010 amps
B. .913 amps
C. 103 m amps
D. 934 m amps

02723. When a voltage of 112 VDC is applied to the circuit illustrated with a resistance of 470 ohms the current will be_____.
(See illustration EL-0018)

A. .238 amps
B. 4.196 amps
C. 582 m amps
D. 19.723 amps

02729. When a voltage of 112 VDC is applied to the illustrated circuit with a resistance of 237 ohms the current will be _____.
(See illustration EL-0018)

A. 1.47 amps
B. 2.11 amps
C. 347 milliamps
D. 472.6 milliamps

02733. When a voltage of 112 VDC is applied to the circuit illustrated with a resistance of 17.8 ohms the current will be_____.
(See illustration EL-0018)

A. .158 amps
B. 5.82 amps
C. 6.29 amps
D. 129.8m amps

02739. When a voltage of 124 VDC is applied to the illustrated circuit with a resistance of 12 ohms. the current will be _____.
(See illustration EL-0018)

A. 0.096 amps
B. 1.16 amps
C. 10.33 amps
D. 136 m amps

02749. When a voltage of 124 VDC is applied to the illustrated circuit with a resistance of 32 ohms the current will be _____.
(See illustration EL-0018)

A. 0.258 amps
B. 3.875 amps
C. 8.258 amps
D. 156 amps

02761. When a voltage of 124 VDC is applied to the illustrated circuit with a resistance of 110 ohms the current will be_____.
(See illustration EL-0018)

A. 0.887 amps
B. 1.127 amps
C. 234 m amps
D. 2.13 amps

02773. When a voltage of 124 VDC is applied to the illustrated circuit with a resistance of 10,230 ohms the current will be_____.
(See illustration EL-0018)

A. 0.012 amps
B. 82.50 amps
C. 10.354 amps
D. 0.8439 amps

02779. When a voltage of 124 VDC is applied to the illustrated circuit with a resistance of 470 ohms the current will be_____.
(See illustration EL-0018)

A. 0.263 amps
B. 3.79 amps
C. 594 milliamps
D. 1.7814 amps

02789. When a voltage of 124 VDC is applied to the illustrated circuit with a resistance of 237 ohms the current will be _____.
(See illustration EL-0018)

A. 1.523 amps
B. 1.911 amps
C. 361 milliamps
D. 523.2 milliamps

02793. When a voltage of 124 VDC is applied to the illustrated circuit with a resistance of 17.8 ohms the current will be _____.
(See illustration EL-0018)

A. 0.143 amps
B. 2.555 amps
C. 6.966 amps
D. 141.8 milliamps

02797. If a voltage of 132 VDC is applied to the illustrated circuit where the resistance is 12 ohms, then current will be _____.
(See illustration EL-0018)

A. 0.090 amps
B. 1.090 amps
C. 11 amps
D. 144 milliamps

02801. When a voltage of 132 VDC is applied to the illustrated circuit with a resistance of 32 ohms the current will be _____.
(See illustration EL-0018)

A. 0.242 amps
B. 4.125 amps
C. 7.757 amps
D. 1.64 amps

02809. When a voltage of 132 VDC is applied to the illustrated circuit with a resistance of 110 ohms the current will be _____.
(See illustration EL-0018)

A. 0.833 amps
B. 1.2 amps
C. 2.2 amps
D. 242 milliamps

02817. When a voltage of 132 VDC is applied to the illustrated circuit with a resistance of 10,230 ohms the current will be _____.
(See illustration EL-0018)

A. 0.012 amps
B. 77.5 milliamps
C. 10,362 amps
D. 0.792 amps

02833. When a voltage of 132 VDC is applied to the illustrated circuit with a resistance of 470 ohms the current will be _____.
(See illustration EL-0018)

A. 0.280 amps
B. 3.560 amps
C. 602 milliamps
D. 1.673 amps

02841. When a voltage of 132 VDC is applied to the illustrated circuit with a resistance of 237 ohms the current will be _____.
(See illustration EL-0018)

A. 1.236 amps
B. 2.048 amps
C. 0.557 amps
D. 4.200 amps

02842. If the illustrated device has a step-up ratio of 10 to 1 what voltage be measured at the secondary shortly after the primary of the device is connected to 110 volts DC with a current of 12 amps?
(See illustration EL-0055)

A. 0 volts
B. 110 volts
C. 1000 volts
D. 1100 volts

02843. In the illustrated amplifier, the base of the transistor is what type of material? (See illustration EL-0022)

A. N type
B. P type
C. metal oxide insulator
D. alloy junction material

02844. The component F in the illustrated device is for _____.
(See illustration EL-0033)

A. short circut protection
B. latching the trip unit closed after resetting the breaker
C. overload protection
D. providing a flexible connection between the input terminal G and the tripping unit E

02845. In the illustration if BRANCH NO. 1 is a lighting circuit for crew's berthing, Federal Regulations (46 CFR) require the maximum fuse rating for that branch to be _____. (See illustration EL-0013)

A. 15 amps
B. 80% of the connected load
C. 20 amps
D. 30 amps

02846. The reading at "M" on the megger scale shown in the illustration, is _____. (See illustration EL-0044)

A. 7.1 meg ohms
B. 71 meg ohms
C. .71 meg ohms
D. 200,000,000 ohms

00140 C	01010 C	01148 D	01250 C	02599 C
00148 B	01030 B	01156 A	01252 A	02611 B
00149 A	01038 D	01158 B	01255 C	02617 A
00154 A	01042 B	01161 C	01256 A	02621 A
00219 B	01050 B	01163 C	01258 C	02633 B
00366 D	01055 B	01164 A	01266 C	02643 D
00381 D	01058 C	01166 A	01268 A	02657 C
00411 A	01059 C	01167 A	01269 D	02667 B
00486 A	01065 C	01168 B	01272 A	02671 C
00523 C	01066 A	01169 A	01276 C	02679 A
00560 C	01068 D	01176 A	01342 A	02687 A
00616 D	01069 B	01180 B	01362 C	02691 A
00651 A	01080 B	01186 C	01372 C	02697 B
00660 A	01085 B	01188 D	01382 C	02701 C
00668 A	01088 B	01189 C	01392 C	02709 B
00670 D	01093 D	01195 A	01398 A	02713 B
00676 B	01095 C	01198 D	01405 A	02719 A
00696 B	01096 D	01199 A	01406 A	02723 A
00732 C	01098 A	01200 C	01426 A	02729 D
00740 C	01106 A	01201 C	01428 A	02733 C
00742 C	01108 C	01205 C	02001 D	02739 C
00766 D	01109 C	01206 A	02391 A	02749 B
00780 B	01113 D	01216 D	02411 D	02761 B
00793 B	01116 C	01218 C	02507 C	02773 A
00829 A	01118 A	01219 B	02519 D	02779 A
00868 C	01119 A	01226 D	02523 B	02789 D
00946 A	01120 C	01228 D	02527 D	02793 C
00965 B	01126 A	01229 C	02531 A	02797 C
00968 B	01128 B	01230 A	02541 D	02801 B
00994 C	01129 A	01235 C	02547 C	02809 B
00995 D	01136 D	01245 C	02551 A	02817 A
00996 A	01139 A	01246 A	02559 A	02833 A
01006 B	01140 C	01248 C	02567 C	02841 C
	01146 B	01249 B	02571 D	

STEAM PLANTS

00336. As the saturation pressure of a fluid is increased, the relative value shown on the graph will _____. (See illustration SG-0001)

A. decrease the length of line 4
B. increase the length of line 4
C. decrease the BTU's per pound per degree change for line 5
D. increase the BTU's per pound per degree change for line 5

00758. With an increase in the saturation pressure of a fluid, the value represented by line "5" on the graph will _____.
(See illustration SG-0001)

A. decrease the number of BTU's per pound per change in degree of temperature
B. increase the number of BTU's per pound, per change in degree of temperature
C. remain virtually the same
D. represent an increase in the latent heat of condensation

00759. The illustrated burner atomizer assembly is _____.
(See illustration SG-0022)

A. straight mechanical
B. used only for variable load steam atomization
C. an example of a rotary cup type atomizer
D. used in a return flow type burner management system

00760. The purpose of the pressure control disk installed in the soot blower illustrated is to _____. (See Illustration SG-0023)

A. control the velocity and distance of the steam valve passing from the soot blower element
B. reduce the steam supply pressure to properly rotate the soot blower
C. control the amount of arc during rotation of the soot blower element
D. assist in the intial opening of the valve at the begining of the soot blower operation

00763. The steam soot blower piping should be thoroughly drained before operating to prevent _____.

A. accidental flameout
B. feedwater losses
C. nozzle/elements eroding
D. erosion of the corbel

00773. In accordance with Coast Guard Regulations (46 CFR), all vessels having oil fired main propulsion boiler(s) must be equipped with _____.

A. only one positive displacement type fuel service pump
B. one fuel oil heater if shown that the normally used fuel oil will be of low viscosity
C. two suction and discharge duplex strainers
D. all of the above

00776. The double bottom tanks on your vessel are used to store heavy fuel oil. There are six sets of tanks with the port/starboard outboard tanks being 33% to 50% smaller in capacity than the port/starboard centerline tanks. The tanks forward are smaller than those aft, with the 3's and 5's being the largest double bottoms. Considering that a minimum amount of fuel oil is on board, the bunkering process should be to fill the _____.

A. 3's and 5's, then all tanks aft and finishing with the forward tanks
B. forward tanks, then the 3's and 5's, and finishing with the aft tanks
C. forward tanks, the aft tanks, and complete the bunkering by filling the outboard then centerline 3's and 5's
D. forward tanks, then fill the aft tanks, and complete the bunkering by filling the centerline, then the outboard 3's and 5's.

00790. The position of the installed pressure control disk to the soot blower illustrated, has been moved higher and will _____. (See Illustration SG-0023)

A. cause the soot blower to be rotated faster than had been previously determined
B. cause the soot blower to rotate slower than had been previously determined
C. decrease the amount of opening for the steam valve
D. increase the steam pressure in the rotating blower element

00824. The steam soot blower piping should be thoroughly drained before operating to prevent _____.

A. impinging of generating tube surfaces
B. feedwater losses
C. plugging of nozzles
D. warping of soot blower elements

00836. The double bottom tanks on your vessel are used to store heavy fuel oil. In general, there are six sets of tanks with the port/starboard outboard tanks being an average 33% to 50% capacity smaller than the port/starboard centerline tanks. Also, the tanks forward are smaller than those aft, with the 3's and 5's being relatively the largest double bottoms. In general, with a minimum amount of fuel oil on board, the bunkering process should be to fill the _____.

A. aft tanks, then the midship tanks, finally all forward tanks to use the increase in pressure to force the oncoming fuel forward
B. forward tanks, then the 3's and 5's, and finish with the aft tanks moving successively aft to bring the draft at the bow down as quickly as possible
C. forward tanks, then fill the aft tanks, and complete the bunkering by filling the outboard then centerline 3's and 5's to avoid high pressure in static overflow leg
D. forward then the aft tanks, and completing the process by with the centerline, then the outboard 3's and 5's, as small tanks are easier to control when topping off

00870. While bunkering your ship, the #3 double bottom tanks across are the last tanks to be filled, with the centerline tanks being relatively the largest. These tanks were empty at the beginning of bunkering, although each of the four valves are the same size and have been just opened the same number of turns. In general, you would find that _____.

A. all four tanks will be topped at the same time
B. to top off the centerline tanks last, the valves to these tanks should be choked closed until the static leg pressure begins to rise
C. to top off the centerline tanks last, the valves to the outboard tanks should be choked closed until the sattic leg pressure begins to rise
D. it is best to top off the outboard tanks last as small tanks are easier to control when completing the filling of the tanks.

00903. Which condition would cause a dangerously low level in the D.C. heater as the vessel is increasing from maneuvering to sea speed?

A. Excessive dumping of feedwater to the drain inspection tank via the automatic dump valve
B. Excessive recirculation of condensate to the drain transfer tank
C. Internal collapse of a rubber expansion joint located in the condensate pump suction line
D. Clogged "Y" strainer at the inlet of the pneumatically operated condensate recirculating valve assembly

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00336 A
00758 C
00759 C
00760 B
00763 C
00773 B
00776 C
00790 D
00824 A
00836 C
00870 C
00903 C
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MOTOR PLANTS

00007. The RPM of "A" is 100 and hobbed with 76 teeth. If gears "B", "C", and "D" have 32, 60, and 42 teeth respectively, the RPM of "D" in the gear train illustration is _____. (See illustration MO-0088)

A. 339.29 RPM
B. 96.51 RPM
C. 267.86 RPM
D. 76.19 RPM

00014. The RPM of "D" is 600 and hobbed with 48 teeth. If gears "C", "B", and "A" have 66, 22, and 84 teeth respectively, the RPM of "A" in the gear train illustration is _____. (See illustration MO-0088)

A. 111.63 RPM
B. 66.67 RPM
C. 460.47 RPM
D. 51.16 RPM

00022. Coast Guard Regulations (46 CFR) permit the use of drain valves for removing water or impurities from diesel engine fuel systems. These valves must be _____.

A. self-closing gate valves
B. operated electrically
C. connected through the tank top
D. located in the machinery space

00047. The RPM of "D" is 600 and hobbed with 46 teeth. If gears "C", "B", and "A" have 80, 30, and 94 teeth respectively, the RPM of "A" in the gear train illustration is _____. (See illustration MO-0088)

A. 84.38 RPM
B. 110.11 RPM
C. 510.64 RPM
D. 71.81 RPM

00060. The RPM of "D" is 700 and hobbed with 38 teeth. If gears "C", "B", and "A" have 62, 20, and 82 teeth respectively, the RPM of "A" in the gear train illustration is _____. (See illustration MO-0088)

A. 72.84 RPM
B. 529.27 RPM
C. 104.64 RPM
D. 55.07 RPM

00188. Concerning diesel propelled vessels, the astern power is to provide for continuous operation astern _____.

A. equal to that available for ahead operation
B. at 70 percent of the ahead rpm at rated speed
C. while underway and under all normal conditions
D. at 70 percent of the ahead rpm of average continous sea speed

00411. The RPM of "A" is 100 and hobbed with 80 teeth. If gears "B", "C", and "D" have 20, 62, and 38 teeth respectively, the RPM of "D" in the gear train illustration is _____. (See illustration MO-0088)

A. 67.91 RPM
B. 652.63 RPM
C. 505.79 RPM
D. 52.63 RPM

00809. The RPM of "A" is 100 and hobbed with 88 teeth. If gears "B", "C", and "D" have 22, 66, and 48 teeth respectively, the RPM of "D" in the gear train illustration is _____. (See illustration MO-0088)

A. 61.11 RPM
B. 412.50 RPM
C. 550.00 RPM
D. 45.83 RPM

00819. A direct acting, pneumatically controlled governor for a diesel engine operates in a range of 10 to 50 psi. The fuel rack position is at 20 millimeters when the governor air pressure is 30 psi. If the governor air pressure changes to 20 psi, the fuel rack setting will change to _____.

A. 12 millimeters
B. 17 millimeters
C. 22 millimeters
D. 24 millimeters

01254. The RPM of "A" is 100 and hobbed with 96 teeth. If gears "B", "C", and "D" have 30, 80, and 46 teeth respectively, the RPM of "D" in the gear train illustration is _____. (See illustration MO-0088)

A. 78.26 RPM
B. 463.77 RPM
C. 65.22 RPM
D. 556.52 RPM

01468. The RPM of "A" is 100 and hobbed with 72 teeth. If gears "B", "C", and "D" have 24, 64, and 36 teeth respectively, the RPM of "D" in the gear train illustration is _____. (See illustration MO-0088)

A. 800.00 RPM
B. 112.50 RPM
C. 711.11 RPM
D. 100.00 RPM

01469. The illustrated device is operated directly by _____. (See illustration MO-0041)

A. a rocker arm and push rod
B. cam action
C. fuel oil pressure
D. excessively high combustion pressure

01470. According to Coast Guard regulations, keel cooler installations are _____.

A. required on all vessels of less than 150 gross tons
B. to be made between the the bilge keel and the keel
C. to be provided with shutoff or isolation valves except when installed forward of the collision bulkhead
D. to be provided with expansion tanks, which must be located below the load line to provide positive cooling water flow

01475. The speed droop characteristics of two similar diesel engines, driving two similar AC generators, are connected in parallel. From the illustrated diagram, determine which of the following statements is true. (See illustration MO-0109)

A. Engine "A" will take a greater part of the load than engine "B".
B. Engine "B" will operate at a lower RPM than engine "A" when operating alone.
C. Engine "A" will take lesser part of the load than Engine "B".
D. Engine "B" will operate at a higher RPM than engine "A".

01477. In the diesel engine cooling system illustrated, the high temperature alarm contact maker will be activated on excessively high water discharge temperature from the _____. (See illustration MO-0077)

A. raw water pump discharge
B. expansion tank outlet
C. cooling water heat exchanger outlet
D. engine jacket water outlet

01478. The RPM of "A" is 150 and hobbed with 78 teeth. If gears "B", "C", and "D" have 32, 60, and 42 teeth respectively, the RPM of "D" in the gear train illustration is _____. (See illustration MO-0088)

A. 148.57 RPM
B. 522.32 RPM
C. 401.79 RPM
D. 114.29 RPM

01479. The combustion of fuel for illustrated engine is provided by _____. (See illustration MO-0020)

A. a spray of fuel into a turbulence combustion chamber
B. fuel sprayed into an energy cell
C. fuel injection provided by a unit injector
D. individual Bosch fuel pumps

01484. The illustrated diesel engine starting motor initially disengages the drive/clutch mechanism from the engine flywheel once the engine has started by _____. (See illustration MO-0051)

A. de-energizing the solenoid
B. the potential retraction energy possessed by the return spring "D"
C. the mechanical interaction between the clutch and the splined sleeve
D. centripital force exerted by the rotating armature

01487. Which of the indicator diagrams illustrated depicts the condition that should be corrected by advancing only the timing? (See illustration MO-0029)

A. A
B. B
C. C
D. D

01488. The diesel engine starting motor returns the Bendix drive/ clutch mechanism to the position illustrated by _____. (See illustration MO-0051)

A. reversing the direction of the starting motor
B. the higher peripheral speed of the flywheel
C. the potential energy of spring "D" once the solenoid has been de-energized
D. mechanical interaction of the left hand thread and the energy imparted by the rotation of the over-running clutch

01489. The engine cylinder illustrated is of the _____.
(See illustration MO-0020)

A. dry liner type
B. wet liner type
C. type integrally machined in the block
D. integral wet liner type

01490. Contaminants that can increase the foaming tendencies of lube oil are _____.

A. excessively high oil temperatures
B. water or moisture
C. fuel mixing
D. carbon suspension

01494. Which of the following conditions is likely to develop if the thermocouple element of a pyrometer becomes coated with excessive amounts of combustion by-products?

A. Indicated exhaust pressure readings will increase.
B. Pyrometer responses will be retarded.
C. Indicated cylinder temperature readings will increase.
D. Indicated firing pressure readings will increase.

01496. The illustration is an exploded assembly of a/an _____.
(See illustration MO-0050)

A. power take-off driven, vane type, air compressor
B. battery powered, electric motor driven vane type, hydraulic pump
C. air driven starter motor assembly
D. air driven DC generator

01498. The illustrated figure represents _____.
(See illustration MO-0022)

A. a correctly assembled centrifuge bowl
B. fuel pump timing marks
C. fuel rack alignment marks
D. a strobascopic speed scale for timing

01500. According to Coast Guard regulations, keel cooler installations are _____.

A. required on all vessels of less than 150 gross tons
B. not to be constructed as independent heat exchangers and must be welded integral with the hull
C. permitted to be part of the vessel's hull as long as the material is of the same quality and thickness as the hull
D. to be provided with expansion tanks, which must be located below the load line to provide positive cooling water flow

01513. Which of the following problems represents one possible cause of high lube oil consumption in a four stroke diesel engine?

A. Worn intake valve guides
B. Pitted precombustion chambers
C. Loose valve tappets
D. High exhaust back pressure

01515. If an auxiliary diesel engine coolant temperature is higher than normal, but the thermostat is determined not to be defective, you would suspect a/an _____.

A. cavitation erosion in the water jackets
B. excess corrosion inhibitor in the coolant
C. dirty jacket water cooler
D. defective turbocharger

01516. The function of the illustrated device is to _____. (See illustration MO-0070)

A. maintain cold lash adjustment
B. provide metered bypassing of lube oil in a bypass type lube oil system
C. act as a multi-pressure relief valve
D. quickly shut off fuel flow at the end of fuel injection

01517. The formula "Nplan/45,000" is equal to the _____.

A. IHP
B. BMEP
C. BHP
D. SHP

01518. The RPM of "A" is 150 and hobbed with 94 teeth. If gears "B", "C", and "D" have 30, 80, and 46 teeth respectively, the RPM of "D" in the gear train illustration is _____. (See illustration MO-0088)

A. 114.95 RPM
B. 817.39 RPM
C. 695.65 RPM
D. 97.83 RPM

01521. The RPM of "A" is 150 and hobbed with 82 teeth. If gears "B", "C", and "D" have 20, 62, and 38 teeth respectively, the RPM of "D" in the gear train illustration is _____. (See illustration MO-0088)

A. 104.41 RPM
B. 758.68 RPM
C. 1003.42 RPM
D. 78.95 RPM

01527. The RPM of "D" is 700 and hobbed with 42 teeth. If gears "C", "B", and "A" have 32, 60, and 42 teeth respectively, the RPM of "A" in the gear train illustration is _____. (See illustration MO-0088)

A. 191.22 RPM
B. 199.11 RPM
C. 512.20 RPM
D. 145.69 RPM

01530. According to Coast Guard regulations, isolation valves used in keel cooler installations are permitted to be constructed of _____.

A. bronze
B. non-ductile cast iron
C. lead and cast iron alloys
D. zinc and antimony alloys

01535. Which of the following statements represents the best method for tightening the illustrated head bolts? (See illustration MO-0028)

A. Beginning with number 1 and moving clockwise, tighten each in consecutive order
B. Beginning with number 1 and moving counter clockwise, tighten each in consecutive order
C. Beginning with number 1, tighten it move directly opposit and tighten, then move 90· tighten and continue on
D. Beginning with number 1, tighten it, move to number 3 and tighten, then to number 7, then to number 5 and continue on

01536. In a coil-type forced circulation auxiliary water-tube boiler, _____.

A. steam demand response is comparatively rapid
B. steam is recirculated through heating coils in the boiler
C. unevaporated feedwater is discharged through the skim tube
D. steam demand response is slow

01548. The RPM of "D" is 900 and hobbed with 36 teeth. If gears "C", "B", and "A" have 64, 24, and 72 teeth respectively, the RPM of "A" in the gear train illustration is _____. (See illustration MO-0088)

A. 168.75 RPM
B. 112.50 RPM
C. 100.00 RPM
D. 800.00 RPM

01555. If the plunger or barrel of a fuel injection jerk pump becomes damaged, _____.

A. the entire pump must be replaced
B. the injection pump and injection nozzle must be replaced
C. either the barrel or plunger must be replaced
D. the barrel and plunger must be lapped and blued.

01556. The speed droop characteristics of two similar diesel engines, driving two similar DC generators, are connected in parallel. From the illustrated diagram, determine which of the following statements is true. (See illustration MO-0109)

A. Engine "B" will take a greater part of the load than engine "A".
B. Engine "B" will operate at a lower RPM than engine "A" when operating alone.
C. Engine "B" will take lesser part of the load than Engine "A".
D. Engine "B" will operate at a higher RPM than engine "A".

01557. Which type of pump is typically used to supply fuel to a unit type auxiliary boiler?

A. Centrifugal
B. Propeller
C. Reciprocating
D. Rotary

01558. The RPM of "D" is 900 and hobbed with 48 teeth. If gears "C", "B", and "A" have 66, 22, and 88 teeth respectively, the RPM of "A" in the gear train illustration is _____. (See illustration MO-0088)

A. 75.00 RPM
B. 163.64 RPM
C. 100.00 RPM
D. 675.00 RPM

01560. In a diesel engine jacket water cooler, with seawater cooling the fresh water, the _____.

A. sea water temperature must never be warmer than 40·F
B. jacket water pressure should always be greater than the sea water pressure
C. jacket water temperature must always be less than 60·F
D. jacket water pressure must always be less than the sea water pressure

01575. The RPM of "A" is 150 and hobbed with 86 teeth. If gears "B", "C", and "D" have 22, 66, and 48 teeth respectively, the RPM of "D" in the gear train illustration is _____. (See illustration MO-0088)

A. 806.25 RPM
B. 89.58 RPM
C. 618.75 RPM
D. 68.75 RPM

01580. The RPM of "D" is 800 and hobbed with 38 teeth. If gears "C", "B", and "A" have 62, 20, and 80 teeth respectively, the RPM of "A" in the gear train illustration is _____. (See illustration MO-0088)

A. 122.58 RPM
B. 64.52 RPM
C. 83.25 RPM
D. 620.00 RPM

01605. The RPM of "D" is 500 and hobbed with 42 teeth. If gears "C", "B", and "A" have 32, 60, and 42 teeth respectively, the RPM of "A" in the gear train illustration is _____. (See illustration MO-0088)

A. 147.37 RPM
B. 142.22 RPM
C. 112.28 RPM
D. 394.74 RPM

01606. Which of the indicator diagrams illustrated depicts the condition that should be corrected by retarding only the timing?
(See illustration MO-0029)

A. A
B. B
C. C
D. D

01635. The RPM of "D" is 500 and hobbed with 36 teeth. If gears "C", "B", and "A" have 64, 24, and 72 teeth respectively, the RPM of "A" in the gear train illustration is _____. (See illustration MO-0088)

A. 93.75 RPM
B. 70.31 RPM
C. 444.44 RPM
D. 62.50 RPM

01636. The illustrated piston rings are located at _____.
(See illustration MO-0015)

A. the top of the ring belt
B. the lower part of the ring belt
C. the middle of the ring belt
D. each ring groove of the ring belt

01640. The RPM of "A" is 150 and hobbed with 84 teeth. If gears "B", "C", and "D" have 24, 64, and 36 teeth respectively, the RPM of "D" in the gear train illustration is _____. (See illustration MO-0088)

A. 131.25 RPM
B. 711.11 RPM
C. 100.00 RPM
D. 933.33 RPM

01645. Which of the indicator diagrams illustrated depicts the condition that should be corrected by the fitting of thinner shims, or removing of shims to the connecting rod? (See illustration MO-0029)

A. A
B. B
C. C
D. D

01646. The fuel injection valve on one cylinder of a six cylinder low speed engine has become gradually fouled. This will result in the firing pressure, during steady loads, in the faulty cylinder to _____.

A. decrease, but maintain the same firing pressures in the remaining five cylinders
B. increase, but maintains the same in the firing pressures remaining five cylinders
C. remain the same, with lower firing pressures developed in all cylinders
D. decrease, with an increase in the firing pressures in the remaining cylinders

00007 A
00014 A
00022 D
00047 B
00060 C
00188 B
00411 B
00809 C
00819 B
01254 D
01468 A
01469 B
01470 C
01475 A
01477 D
01478 B
01479 A
01484 C
01487 B
01488 B
01489 C
01490 B
01494 B
01496 C
01498 A
01500 C
01513 A
01515 C
01516 B
01517 A
01518 B
01521 C
01527 D
01530 A
01535 A
01536 A
01548 C
01555 A
01556 C
01557 D
01558 A
01560 B
01575 A
01580 B
01605 C
01606 A
01635 D
01636 B
01640 D
01645 C
01646 D

ENGINEERING SAFETY

00016. What safety information can be found in the fire control plan that is posted or available in booklet form on your ship?

A. Location of fire doors
B. Location of the remote means of stopping fans
C. Particulars of the fire detecting system
D. All of the above.

00154. Carbon dioxide extinguishers must be recharged when the weight is less than?

A. 80%
B. 85%
C. 90%
D. 95%

00224. A vessel which is subjected to "hogging" _____.

A. has its main deck under compressive stress
B. has its main deck plating under tensile stress
C. has its bottom plate under tensile stress
D. has its bottom plating under ductile stress

00236. According to Coast Guard Regulations (CFR 33), all ships are required to prepare, submit, and maintain a(an) _____.

A. synthetic plastic discharge plan
B. oil discharge plan
C. shipboard oil pollution emergency plan
D. vapor recovery procedures plan

00263. According to Coast Guard regulations (CFR 33), the shipboard oil pollution emergency plan must include _____.

A. all information ordinarily provided in the oil record book
B. an explanation and purpose of this plan
C. a one-line schematic of the plan to be implemented
D. the operating instructions for any and all oily-water separators installed aboard the vessel

00446. Which of the following is NOT a mandatory requirement part of the shipboard oil pollution emergency plan?

A. reporting requirments
B. diagrams
C. steps to control a discharge
D. national and local coordination

00474. Which of the following is a mandatory section of the shipboard oil pollution emergency plan?

A. reporting requirements
B. removal equipment list
C. plan exercises
D. list of individuals required to respond

00482. Which of the following is NOT required to be provided as part of the appendixes of the Shipboard Oil Pollution Emergency Plan?

A. a list of agencies or officials of Coastal Site administrations responsible for receiving and processing incident reports
B. a list of agencies or officials in regularly visited ports.
C. a list which specifies who will be responsible for informing the parties listed and the priority in which they must be notified.
D. a list of personnel duty assignments

00516. When amendments are made to the shipboard oil pollution emergency plan, the revisions must be submitted to the Coast Guard _____.

A. one month prior to the anniversary date of the plan
B. six months prior to the end of the approval period
C. and cannot be implemented without approval
D. and can be implemented without immediate approval as long as final approval is received within six months of submittal

00524. The approval period for a shipboard oil pollution emergency plan expires after _____.

A. one year
B. two years
C. four years
D. five years

00543. A shipboard oil pollution emergency plan is required of _____.

A. all vessels, regardless of size and commercial application
B. any barge or other ship which is constructed or operated in such a manner that no oil in any form can be carried aboard
C. an oil tanker of 150 gross tons or above, or other ship of 400 gross tons or above
D. an oil tanker of 400 gross tons and above, or other ships of 150 gross tons and above

00697. A patient has an electrical burn, after checking breathing and pulse, _____.

A. look for a second burn, which may have been caused by the current exiting the body
B. locate the nearest water source and flood the burn with water for five minutes
C. remove any dirt or charred skin from the area of the burn
D. apply ointment to the burn area and wrap with clean cloth

00855. Coast Guard regulations require a shipboard oil pollution emergency plan to be reviewed _____.

A. annually only
B. biennially only
C. quad-annually only
D. only one every five years

00945. Shipboard oil pollution emergency plans must be reviewed _____.

A. annually by the owner and a letter sumitted six months prior to expiration
B. only once every five years and a letter submitted six months prior to expiration
C. and the entire plan resubmitted for approval once every five years, six months prior to expiration
D. annually by the owner and submit a letter to the Coast Guard within one month of the anniversary date of the plan approval

00964. Records of garbage disposal are required to be maintained _____.

A. until each quad-ennial Coast Guard inspection
B. until the end of each voyage
C. for a minimum of one year
D. for a minimum of two years

00990. Which statement regarding garbage disposal is correct?

A. Records for ground garbage disposal are not required when disposal into the sea occurs more than 25 miles offshore.
B. Discharging or transfer of garbage while in port to a shore facility must be recorded.
C. Maintaining records for the incineration of garbage aboard ship is not required.
D. The recording of garbage disposal should include the approximate weight.

01145. When dumping garbage into the sea, other than special areas, _____.

A. the U.S. Coast Guard must be notified for each occurence
B. records must be provided and maintained for two years
C. an entry into the official log book must be made
D. no record is required if dumping is carried out more than 25 miles offshore and there is no included plastic material

01146. A vessel which is subjected to "hogging" has its _____.

A. main deck under compressive stress
B. main deck plating under strake stress
C. bottom plate under compressive stress
D. bottom and deck plating under compressive stress

01148. Except in rare cases, it is impossible to extinguish a shipboard fire by _____.

A. removing the fuel
B. removing the heat
C. interrupting the chain reaction
D. removing the oxygen

01149. A patient suffering from heat exhaustion should first be _____.

A. placed in a sitting position with the head lowered to the knees
B. kept standing and encouraged to walk slowly and continuously
C. given a glass of water and told to return to work after 15 minutes of rest
D. directed to move to a cool space unassisted

01162. A patient suffering from heat exhaustion should first be _____.

A. given a mild seawater solution to drink to replace salt and fluids
B. kept standing and encouraged to walk slowly and continuously
C. given a glass of water and told to return to work after 15 minutes of rest
D. moved to a cool room and told to lie down

01192. When off loading garbage to another ship, your records must identify that ship by name and _____.

A. home port
B. operator's name of record
C. official number
D. master's name

01214. The amount of garbage disposed must be entered into the records maintained by each ship and stated in _____.

A. cubic meters
B. barrels, measured in 55 gallon drums
C. weight in either kilogram or pounds
D. cubic yards convertible to long tons

01236. A vessel sailing through the specific special areas may discharge or dispose of _____.

A. incinerated ash at anytime
B. fairly dense material that will sink, i.e. metal cans or glass bottles at anytime
C. victual waste when at least 12 nautical miles from shore
D. absolutely no garbage at anytime

00016 D
00154 C
00224 B
00236 C
00263 B
00446 B
00474 A
00482 D
00516 C
00524 D
00543 C
00697 A
00855 A
00945 D
00964 D
00990 B
01145 B
01146 B
01148 A
01149 D
01162 D
01192 C
01214 A
01236 C

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